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**MAIN TRENDS IN SOVIET CAPABILITIES  
AND POLICIES, 1960-1965**

*Submitted by the :*  
**DIRECTOR OF CENTRAL INTELLIGENCE**

*The following intelligence organizations participated in the preparation of this estimate: The Central Intelligence Agency and the intelligence organizations of the Departments of State, the Army, the Navy, the Air Force, The Joint Staff, The Atomic Energy Commission, and the National Security Agency*

*Concurred in by the*  
**UNITED STATES INTELLIGENCE BOARD**

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CIA HISTORICAL-REVIEW PROGRAMMAIN TRENDS IN SOVIET CAPABILITIES  
AND POLICIES, 1960-1965

## THE PROBLEM

To review significant developments affecting the USSR's internal political situation, economic, scientific, and military programs, relations with other Bloc states, and foreign policy, and to estimate probable Soviet policies and actions over about the next five years.

## SUMMARY OF THE ESTIMATE

1. The attempt to forecast developments within the USSR and in Soviet power and policy for five years ahead is subject to some very severe limitations. Our estimative reach in many of the detailed matters discussed in the body of this Estimate is frankly acknowledged to fall well short of such a period. In respect of matters where we have actually made five-year estimates the degree of certainty falls off markedly for the later years. In the summary paragraphs which follow we are dealing with the broader trends which will determine the nature and magnitude of the challenge which the USSR will present to US security in the years ahead. These we believe are predictable in the main, although their particular manifestations clearly depend upon unknown and imponderable factors, or even upon purely fortuitous developments.

## THE PRESENT SOVIET OUTLOOK

2. One of the principal factors which will shape future developments is the outlook of the Soviet leaders themselves. There are two essential aspects of this. One is the Soviet leaders' belief, derived from the Marxist-Leninist ideology which continues to dominate their thinking, that their society and the non-Communist world are locked in an irreconcilable struggle which must continue until their system comes to dominate the world. There is no evidence at present to indicate that the Soviets will come to accept a

world system which assumes the genuine co-existence of states and ideologies. For so brief a period as five years, Soviet behavior and policy will surely be marked by fundamental hostility toward the West, and especially toward the US as the principal obstacle to the fulfillment of Soviet aims.

3. A second essential feature of the Soviet outlook in the current period is its high confidence in the growth of the USSR's power and influence. Looking back to the weak and perilous position in which the new Communist regime found itself in 1917, remembering all the internal and external trials it has survived, and considering its growth in relative economic and military power over the last 20 years, the Soviet leaders are encouraged in their doctrinaire expectations about communism's inevitable triumph. That it was a Communist rocket which first ventured into space symbolizes for them that they are marching in the vanguard of history. They think they see a response to their doctrines and influence in the revolutionary tumults of Asia, Africa, and Latin America. They expect to associate the peoples emerging from colonialism and backwardness with their own cause, mobilizing them against an ever more constricted world position of the Western states. The relative internal stability of the latter at present they see as only a transient phase.

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4. While hostility toward the West and confidence in the eventual outcome of the world struggle will inspire Soviet behavior in the period ahead, we do not believe that the result will be policies of recklessness. The Soviet leaders recognize that Western resources remain great, and that the struggle for Communist power in the uncommitted world will be prolonged. They are particularly conscious of the hazards of nuclear war. Moreover, they have numerous problems of their own within the Communist Bloc which may move them to caution. Their policies will be marked by a persistent activism and opportunism, but also by what they consider to be a due measure of caution. More important, however, than the Soviet outlook and aims, especially since these offer little hope for accommodation and genuine peace, are the strengths and resources which the Soviets will be able to bring to the pursuit of their aims.

#### THE SOVIET POWER BASE

##### Economic Aspect

5. Perhaps the most firmly based of our estimates are those which relate to the growth of Soviet economic power. The Soviet economy has the resources and plant as well as the planning and directing mechanisms to insure steady fulfillment of most of the goals in industrial expansion which the leadership sets. The industrial targets of the Seven-Year Plan (1959-1965), providing for 8.6 percent annual increase in industrial output, will almost certainly be met ahead of schedule. We estimate that by 1965 total investment will reach about one-third of gross national product (GNP), as compared with the present US rate of about one-fifth of GNP. Only in agriculture, which is burdened by a heritage of errors and neglect, will the regime fall well short of its goals, but even here we estimate that output will increase by about 3 to 4 percent per year. The GNP of the USSR in 1959 was somewhat less than half that of the US; it is growing about twice as fast and by 1965 will probably be somewhat more than half of US GNP.

6. GNP is a rough measurement, however. More important in terms of world power competition are the uses to which economic resources are put. The USSR maintains a defense effort judged to be of about the same magnitude as that of the US. The dollar value of Soviet investment in industry in 1959 exceeded the highest US figure, achieved in 1957. For purposes related to national power—defense, science, foreign economic and political operations—the Soviets are increasingly in a position to assign resources freely and without agonizing self-denials. That they are able to provide the resources for national power on a scale equivalent to the US is due to the virtually absolute command which the leadership has over the disposal of resources. It will continue to give the highest priority to purposes related to national power in order to "overtake and surpass" the US. The Soviet regime has bought economic growth and military strength at the expense of the living standards of the Soviet people. But its resources are now great enough so that it feels able to provide for improved living standards also. The consumption level remains low but we estimate that per capita increases will occur over the next five years at the respectable rate of four percent annually. The Soviet challenge in the economic field will be increasingly formidable, not because the USSR has any chance of overtaking the US standard or style of living, but because Soviet resources for the competition in power are already great and will continue to grow rapidly.

##### Military Aspect

7. As indicated, military power has one of the first claims upon Soviet resources. Our estimates on the development of Soviet military power until 1965 are far less certain than those on the Soviet economy. This is partly due to unpredictable developments during a period of rapid change in military technology. It is due more to gaps in certain kinds of critical information about Soviet military programs. Although in recent years the Soviets have released fuller economic data than previously,

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on essential matters in the military field they continue to maintain a policy of extreme secrecy, which they evidently view as a major military asset in itself.

8. The most significant development in the military field during the period of this estimate will be the USSR's emergence from strategic inequality, primarily through the build-up of an ICBM force, and also through development of its defense systems against nuclear attack. The overcoming of an inferiority under which the Soviets have operated throughout the postwar period is already having a profound effect on Soviet attitudes and policy. It inspires the confidence remarked upon above, has emboldened the Soviets to challenge the West on a vital issue like Berlin, and has led them to engage the West in other areas around the world formerly conceded to be beyond the reach of Soviet power.

9. The Soviet leaders will not be content with the gains in military power they have made. They will seek, by intensive research and development through the years ahead, as well as by equipping their forces with advanced weapons as these become available, to acquire an advantage over the West. If they succeed, they will press their advantage ruthlessly, though still within what they would consider to be the limits of tolerable risk to their own rule and system. It seems quite clear that in their present view both sides are deterred from the deliberate initiation of general war as a rational course of action. Moreover, with the weapons systems now on hand or likely to be available during the next few years, the Soviets probably do not count on acquiring an advantage so decisive as to permit them to launch general war under conditions which would not gravely menace their regime. Nevertheless, they are building their nuclear striking power with vigor, and we believe that they will build a substantial missile force. What we can learn of Soviet ideas suggests that their long-range striking capability is thought of primarily in terms of deterrence, and of employment for a heavy blow should the Soviets finally conclude that deterrence had failed, rather than in terms of the

deliberate initiation of general war.<sup>1</sup> The Soviet missile force will also constitute an important means of political pressure, even though it is never used in actual combat.

10. In order to deal more effectively with the continuing bomber threat the Soviets are incorporating a large number of surface-to-air missiles into their air defense. They are now also doing large-scale research and development on antimissile systems in the hope of obtaining an advantage in this critical aspect of the future weapons balance. By the period 1963-1966 they will probably begin to deploy such a system, though its effectiveness is uncertain. Soviet research and development effort will probably also focus on the new threat presented by Polaris.

11. Partly as a result of the increased security the Soviets feel they have gained from their development of a variety of offensive and defensive missiles, they have announced a major personnel reduction in their forces, from about 3.6 to about 2.5 million men by the end of 1961. Barring a serious deterioration in the international situation, we believe the cut will be substantially carried out. We believe that tactical aviation has already been cut by one-half and naval aviation by two-thirds, the latter primarily through elimination of the fighter arm. However, the main weight of the cut will fall on the very large ground forces. Even with the reduction, the Soviets will still have substantial field ground forces: we estimate nearly 1.5 million men organized in 65 divisions averaging two-thirds strength and some 60 cadre divisions at about one-fourth strength. The submarine force will become even more than it is today the primary component of the Soviet Navy, and will include

<sup>1</sup> The Assistant Chief of Staff, Intelligence, USAF, believes that the evidence of offensive missile and bomber production and deployment shows a definite intent by the Soviet rulers to achieve a clear military superiority at the earliest practicable date. He feels we are entering a very critical twenty-four month period in which the USSR may well sense it has the advantage. The Soviet leaders may press that advantage and offer the US the choice of war or of backing down on an issue heretofore considered vital to our national interests.

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nuclear and missile-carrying types suitable for strategic attack.

12. In sum, the USSR will continue to develop formidable military strength despite the personnel reduction. The Soviet military posture is designed primarily, we believe, to deter general war but also to fight such a war if necessary.<sup>2</sup> Equally, it is intended to bolster the USSR's power position and thereby to promote its general policies. Soviet capabilities for limited war in areas close to Bloc borders are obviously great, but for conflict in more distant areas they are comparatively slight. We do not believe that the USSR intends as a matter of policy to conduct limited war at remote ranges. However, we do not exclude that, with their current tendency to political involvement in remoter areas, the Soviets may seek to develop a greater capacity for intervening militarily, even if only to establish a military presence, in such areas. A really effective ability to do this would presumably depend heavily upon acquisition of base rights and facilities under friendly political arrangements.

#### Scientific Aspect

13. The Soviets obviously understand that science has become one of the key fronts in the world struggle, not only because of its relations to military capability but also because it is a major element in great power prestige. The scale of their effort, thanks to the heavy investment they made in training scientists in past years, is probably now roughly on a par with that of the US, at least in some fields of the basic sciences and in critical areas related to weapons technology. Presumably the scope of Soviet scientific activity will broaden as needs in these first priority areas are met. The quality of Soviet scientific work in many fields is now such that achievements conferring great prestige are as likely to occur in the USSR as in any other country.

<sup>2</sup> The Assistant Chief of Staff, Intelligence, USAF, believes the Soviets seek a clear military superiority. See his footnote to paragraph 9.

#### Political Aspects

14. It is in estimating the political aspect of future developments within the Soviet Bloc that the greatest imponderables intrude. The political system within the USSR itself is stable, and it will almost certainly retain its totalitarian features. The regime will not be openly challenged by the Soviet people, who, even though many of them view it with apathy and ideological disillusionment, are in general hopeful for improvement in the conditions of their life and patriotically moved by the USSR's achievements and its position of world power. If there is change in the Soviet political system it will come from the higher levels of the party and government. In the relatively small group which constitutes the real governing class there are some signs of a desire for more regular participation in policy making, and for more reliance in policy execution on professional expertise instead of party agitational methods. While Khrushchev has avoided or been obliged to avoid the arbitrariness of Stalin, among those who surround him there are probably some who would like to move still further away from the domination of one man in the system. Given Khrushchev's age and state of health he may not survive as the dominating leader throughout the next five years. His successor at the head of the Soviet Government and party may be more restricted in the personal power he wields, but in any totalitarian system political developments are likely to depend heavily on the qualities and style which individual personalities bring to the exercise of great and arbitrary power.

15. In the area of political developments within the Communist Bloc it is the evolution of relations among the Bloc states which raises the greatest uncertainties at present. In general, the states of Eastern Europe have gained in economic strength and political stability in recent years, despite the continuing alienation and resentment of large parts of their populations. There seems little doubt that, with the more flexible and indirect methods of control the USSR has been employing since 1956-1957, it will be able to maintain a generally effective hegemony. However,

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China has raised a fundamental challenge to Soviet leadership of the Bloc. Even if some way is found to resolve the issues posed by China's desire to pursue a more militant policy toward the West, it raises the serious question as to whether the long-term unity of the Bloc under Soviet leadership can be maintained. We believe that there is a trend away from monolithic unity, and that in the long run, if China is to remain within the Bloc, a looser relationship is bound to develop. The future course of Sino-Soviet relations will obviously have profound consequences for the nature of the challenge which communism poses for the Free World. The West may be faced either with new dangers or new opportunities, or both.<sup>3</sup>

#### SOVIET POLICIES TOWARD THE NON-COMMUNIST WORLD

16. The general Soviet strategy for carrying on the world struggle in the present phase rests on two propositions. The first is that general nuclear war must be avoided because the costs in physical damage and social disintegration would be intolerable. The second is that the world position and power of the "Imperialist" states can be undermined by a persistent and aggressive campaign waged by methods short of war—political struggle, economic and scientific competition, subversion. Political struggle takes the form of a constant agitation designed to capture and organize in broad mass movements the sentiments which focus on the great issues of the current period—peace, disarmament, anticolonialism, social justice, economic development. By manipulating these issues and by dramatizing the growth of Soviet power, the Soviets are also trying to align the governments of the under-

<sup>3</sup> The Assistant Chief of Staff for Intelligence, Department of the Army, and the Director for Intelligence, Joint Staff, believe that, in spite of Sino-Soviet frictions, the USSR and Communist China will continue to be firmly allied against the West and will render one another mutual support whenever an important interest of one or the other is threatened by the non-Communist world.

developed and uncommitted states with the Bloc, and against the West. The Soviet leaders hope that the result will be a progressive isolation and loss of influence for the Western powers, divisions among them, and a decline in their ability to deal effectively with threats to their interests. This is what the Soviets mean by "peaceful coexistence"—a strategy to defeat the West without war.

17. This is not a strategy which aims immediately at the revolutionary seizure of power by Communist parties and the setting up of Communist regimes. The Soviets know that there are few countries where the Communists are strong enough to undertake such action, and where they themselves could count upon being able to deter intervention by non-Communist forces. The "peaceful coexistence" strategy is aimed mainly at gradually eliminating Western and building up Soviet influence around the world. The Soviets naturally expect that conditions will thereby be created which are favorable to the growth of Communist movements and which will sooner or later permit the latter to acquire state power peacefully, or by revolutionary action if necessary. Even though overt seizure of power is not now the main aim of the Soviet strategy, over a five-year period situations might arise where the gains from such action would seem important enough to the Soviets so that they would be willing to depart from their present general line.

18. The general line of Soviet policy estimated in the two preceding paragraphs falls within a range which excludes, on the one hand, the deliberate assumption of serious risks of general war, and on the other, abandonment of active struggle against the West. Within these limits we believe that the Soviet leaders will display both militancy and conciliation, at various times and in various proportions as seems to them most profitable. However, the Chinese challenge to Soviet authority involves basic questions of foreign policy, and brings severe pressure to bear on Soviet policy decisions. In trying to adjust to Chinese pressures, the Soviets may go farther in the direction of militancy and risk-taking



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than they otherwise would. On the other hand, if the Soviets should conclude that the Chinese were pushing them towards unacceptable dangers, they might move as a matter of temporary expediency toward a greater degree of stabilization in their relations with the West than they would otherwise consider, though without altering their long-term aim of establishing Communism throughout the world.<sup>4</sup>

19. As a general rule, we believe that the Soviets would consider that the initiation of limited war with Soviet or even Bloc forces entailed unacceptably high risks and political liabilities. However, it cannot be excluded that situations will appear in which they would conclude that some prize was great enough, and the military and political risks acceptable enough, to justify resort to such action. The Soviets are aware, however, that any limited war carries a danger of expanding into general war. We believe, therefore, that their attitude toward the involvement of Soviet or Bloc forces in local and limited war will be a very cautious one, and will be governed by their estimate of the risks and advantages, both political and military, in each situation. Even so, there is always a possibility that they may miscalculate risks.

20. Negotiations with the Western Powers over outstanding issues are conceived by the Soviets as one of the modes of waging the struggle of "peaceful coexistence." They hope that the pressures which they attempt to

<sup>4</sup>The Assistant Chief of Staff, Intelligence, USAF, agrees that the Chinese challenge to Soviet authority will, undoubtedly, have its effect on Soviet policy toward the non-Communist world; however, he believes that the relationship of Soviet military power vis-a-vis the US is the essential determinant. Further, as expressed in his footnote to paragraph 9, he believes that should the Soviets feel that they have achieved a clear military superiority, they are likely to adopt policies involving serious risks of general war.

build up against the West will result in concessions at the negotiating table. Intervals of more accommodating behavior and appeals for relaxed tensions are intended to encourage the making of such concessions. We expect this alternation of pressure and accommodation to be the regular pattern of Soviet behavior with respect to negotiation in the years ahead. Since the U-2 incident in May 1960 the Soviets have adopted a hostile and aggressive attitude which has made effective negotiation impossible. We believe that within the next six months or so the Soviets are likely to moderate this attitude and to attempt to get negotiations started again. It is also possible, however, that on the Berlin issue, where negotiation has so far failed to get them results, they will resort to intensified pressure and threats in an attempt to force the West into high-level negotiations under more unfavorable conditions.

21. We do not believe that the Soviets have a five-year plan for foreign policy in the sense that they set themselves particular goals to accomplish within a set time. Their policy is marked rather by an extraordinary opportunism, and in recent years by rapidity of response and vigor in execution. Over the next five years they probably look for new developments favorable to their interests to occur in a number of areas, but more especially in Africa, Latin America, Japan, Indonesia, and Iran. They probably intend to give particular attention to establishing a diplomatic and economic presence in Africa, to stimulating and exploiting movements on the Castro model in Latin America, and to encouraging the growth of a radical anti-American mass movement in Japan. Above all, however, they intend to build up their base of power within the Bloc itself, in the belief that during the next several years they can considerably improve their relative power position vis-a-vis the West. They believe that if they do so, more opportunities for Communist expansion, and more readily exploitable ones, will open up for them.

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## ESTIMATE

## I. INTERNAL POLITICAL DEVELOPMENTS

22. In the last estimate of this series written a year ago, we presented the Soviet domestic scene as having reached a kind of plateau of stability. The events of the last year call for some alteration of this picture. What then seemed the unassailable authority of Khrushchev over all aspects of policy now seems less sure and complete. In its relations with the population, the regime, apparently concerned by manifestations of discontent and ideological disaffection, has moved to invoke a tighter discipline. In general, the Soviet scene discloses a more active movement of contending forces than seemed to be the case a year ago.

23. This is not to suggest that Soviet internal politics are in a state of crisis. It is rather that certain developments of the last year or so, which are discussed below, show that Soviet politics are not static; that within the totalitarian framework group interests operate, pressures develop, and ebbs and flows of personal influence occur. The evidences of greater activity in the play of such forces over the last year do not mean that any dramatic upheaval such as the overthrow of Khrushchev is likely to occur. They do suggest that the Soviet system is less rigid than has sometimes been thought. It engenders its own characteristic internal problems, but it has also shown a capacity for response and change. That it has done so on an extensive scale since Stalin's death, and continues to do so, is evidence of strength rather than of weakness.

## THE LEADERSHIP

24. Despite his continued ebullience on all public occasions and his undiminished prominence in Soviet propaganda media, the political career of Khrushchev appears to have been passing through a troubled phase within the last year. Following his "triumphal" visit to the US in the fall of 1959 there were a

number of developments affecting both his domestic and foreign policies which can only be regarded as setbacks. They do not appear to have resulted in a serious challenge to his position, but there have been indications that he has had on occasion to bow to a consensus among his leading colleagues which was not of his own making.

25. In domestic policy the principal issues which have preoccupied the Soviet leaders have concerned a more efficient organization of the Soviet economic effort. Generally speaking, in carrying out his economic policies, Khrushchev has tended to rely more heavily on agitational pressure by the party apparatus than on routine administration by government experts. The conflict between the party machine and the technical bureaucracy has been perennial in Soviet society. The problems which have arisen in the last year derive in part at least from Khrushchev's excessive reliance on the former. These problems also reflect the fact that the gains attainable through modification of such Stalinist practices as systematic terror, rigid centralization, and neglect of agriculture have all been made; the regime is currently faced with more difficult decisions as, for example, how to keep the forces of liberalization under control without resorting to police measures, or how to keep the population cooperative in the factories and on the farms without giving too much away in the form of higher living standards.

26. Reservations about Khrushchev's policies, and even more about his impetuous style of leadership, have apparently risen in various quarters. Within the technical bureaucracy there is a feeling that there have been too many crash programs and not enough careful planning. Party elements with a strong ideological bent feel that "practicism," i.e., the drive for practical results without due regard for doctrinal standards, has been carried to the point of undermining social discipline.

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A greater role in high level politics appears now to be played by some combination of the various geographic centers of power—Moscow, Kiev, Leningrad—which exist within the party-government machine and have importance as preserves of patronage and political influence. In general, the coalition which Khrushchev put together in order to defeat the antiparty group in 1957 appears to be rearranging itself into several political elements.

27. The domestic issues over which differences have arisen have related mainly to the organization of industry and agriculture. The latter was exempted from Khrushchev's economic reorganization in 1957, but the historic step of transferring farm machinery from the control of the Ministry of Agriculture to the collective farms, taken in the following year, suggested that further changes were contemplated. An indication of Khrushchev's probable intentions appeared in the creation at the lowest administrative level of "unions of collective farms," a new organizational form readily amenable to party direction. Subsequent press articles urged that such unions be formed at higher levels as well, with the clear implication that they would then take over many if not all of the Ministry's operating functions.

28. Several Khrushchev supporters put these proposals before a plenum of the Central Committee in December 1959, but the scheme was sidetracked there by an opposition led by the Minister of Agriculture. This setback was followed by a major reshuffle in the agricultural leadership in Moscow and a new emphasis on the role of the government expert in agricultural matters, which sought to protect him against the interventions of local party officials. This has meant marking time on the sensitive ideological issue of the collective farm, an institution which represents an embarrassing anomaly at a time when the regime claims to have begun the "all-out" transition to a Communist society. The situation must be particularly troublesome for Khrushchev, who wishes to go down in history as having brought Russia to the doorstep of communism, and whose personal political fortunes have been more closely associated

with agriculture than with any other major internal problem. In addition, the disappointing harvests and economic disorganization in the "new lands" during the last two years may have become a political liability for Khrushchev; it was he who sponsored this venture as one of the principal planks in his campaign to achieve leadership.

29. In industry, the record of performance is far more satisfactory, but the strain of pursuing ambitious targets continues to turn up new problems which can give rise to differences of views. During 1960 the Khrushchev program of decentralized administration, which he carried through in 1957 in the context of a showdown struggle against powerful opponents, has undergone some revision. These changes have strengthened the central planning and supervisory agencies, which are charged with securing local obedience to national directives. Thus they mark a return to some of the views of the antiparty group and a decline in the authority of the oblast first secretary, the key figure in the party apparatus. In contrast to previous practice, none of these changes was publicly advocated by Khrushchev. Indeed, although he keynoted the industrial plenum in June 1959, he played an inconspicuous public role in July 1960 when another plenum discussed the same problems.

30. Developments in foreign policy over the last year may also have weakened Khrushchev's standing with his colleagues. The U-2 affair, the Summit collapse and the failure to make any progress on the Berlin problem have probably been viewed by some Soviet leaders as setbacks. At least, Khrushchev's explanations of his actions in foreign policy in the wake of the Paris breakdown had a defensive tone. He appeared to be reacting to a charge that he had misjudged the intentions and assumed the good faith of the capitalist enemy. There may well have been serious differences within the Soviet leadership over the tactics toward the US after the U-2 affair. We do not now foresee a development in relations with the Western Powers which would be likely to provoke a crisis of leadership in the USSR, although it is possible that

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some development in the Berlin problem might have this effect.

31. The critical developments in intrabloc relations arising from the dispute with China in recent months have almost certainly been a subject of intense debate within the leadership. On the whole, we think the Soviet leaders would not be divided in principle on this subject, but that they would agree on the necessity to resist a Chinese challenge to Soviet leadership of the Bloc and the world Communist movement. On the other hand, the question of tactics to be followed in the dispute with China must be exceedingly delicate and might very well give rise to differences. Since the issue involves a challenge to Soviet leadership of the Bloc, the Soviet leaders probably regard relations with the Chinese Party as the gravest of their current problems. Should there be further deterioration in these relations, especially if the present clash should become still more overt, Khrushchev's leadership would be vulnerable to serious criticism by his colleagues. But in the meantime he may derive advantage from a tendency to close ranks in Moscow against the pretenders in Peking.

32. There have been significant changes in the personnel of higher party organs over the last year. These probably reflect both the conflict over the issues described above and also maneuvering by some of Khrushchev's younger colleagues for an eventual succession struggle. The Party Secretariat (Khrushchev's own particular preserve) was substantially reduced in size, and once again genuinely subordinated to the Presidium, which in turn became a meeting ground of roughly balanced forces representing the Secretariat, the RSFSR Party Bureau, and the Council of Ministers. In the course of this reorganization, Kirichenko, who had been thought by many to be Khrushchev's heir apparent, was retired from public life; the Soviet leader now has three principal lieutenants—Kozlov in the Secretariat, Aristov in the RSFSR Bureau, and Kosygin in the Council of Ministers. Belyaev, long a Khrushchev supporter, was removed from the Presidium and sharply demoted. Mikoyan and Furtseva appear to have suffered at least temporary decline while Suslov,

the leading party theoretician, appears to have gained influence. Simultaneously, there was striking new emphasis on the principle of collective leadership, with particular stress placed on the ascendancy of policy-making bodies over their secretariats. More prominence has been accorded to several of Khrushchev's leading colleagues. The possible implication of all these developments is that Khrushchev's status has been somewhat diminished.

33. We do not conclude that all these personnel changes were necessarily made against Khrushchev's will and that they therefore represent decisive actions against him. He may even have joined in sponsoring them in seeking a new constellation of forces on which to base his authority. A decline in his physical strength, together with his greater preoccupation with foreign policy over the last two years, may have led to a desire to devolve some of his responsibilities for domestic affairs on others. The May changes still left Khrushchev as the only member of the Presidium who belonged to the government and the RSFSR Bureau as well as the Secretariat. The public cult of Khrushchev continues to be sustained at least as fulsomely as before. Nevertheless, the developments described in the preceding paragraphs represent Khrushchev's accommodation to opinions and pressures which developed over the issues which have preoccupied Soviet leaders during the last year. These developments suggest a somewhat more fluid situation near the apex of power than we had previously thought.

34. In sum, we believe that the situation at the highest levels of political power in the USSR may be described as follows: The renunciation by Stalin's successors of resort to terroristic measures against political opponents restored an area of political competition within the party. Khrushchev emerged in 1957 as the dominating figure because he had the support of the party apparatus, because he was the most aggressive personality at the top level, and because he had initiated or shrewdly adopted as his own those policies and programs which the majority of the leadership favored. But he has never reached a

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position of absolute command as did Stalin; he has needed to keep running and politicking in order to stay on top. His style of leadership has rested heavily on maintaining political momentum with constant new initiatives and promises. This demagogic method was risky because the time would inevitably come when the gap between promise and performance would make him vulnerable to opposition. While we think it unlikely that his formal position of leadership will be affected, we think it probable that he is now operating under greater restraints than before and that various group influences will become more effective, probably through the Central Committee of the party, in the determination of Soviet policy.

#### TENDENCIES IN SOVIET SOCIETY

35. The game of Soviet politics discussed above is played by a relatively small circle, with the other elements of the Soviet population cast in a passive role. Detached and even apathetic as the Soviet people are for the most part, their attitudes and expectations nevertheless play a role in the calculations of the party leadership. If the Soviet people do not expect to wield an immediate political influence in the sense of sitting in judgment on personalities and policies, their aspirations do constitute a silent pressure on the leadership.

36. The principal aspirations of which the regime feels obliged to take account are those for peace, personal security, and betterment of living standards. The Soviet leaders hope that so long as advances appear to be made in these three fields, the population will look upon the regime with favor and be inclined to give it active cooperation. The leaders consciously play upon the great pride which the population takes in the scientific and military achievements of the USSR, as they play upon Soviet patriotism generally. The population apparently credits the Soviet regime with having moved in a half-century from national indignity to national prestige, and from political disintegration to the status of the second power on earth. Chauvinist sentiment is strong enough among the Soviet people so that they respond positively to the regime's attempt to represent itself as at the head of

a worldwide revolutionary movement which will bring the USSR to a dominating position.

37. Nonetheless the regime is faced, and will continue to be faced, with a fundamental dilemma in its relations with the population. Broadly speaking, since Stalin's death, it has abandoned terror and come to rely instead upon material inducements and more vigorous indoctrination. But it cannot raise living standards sufficiently to fully satisfy expectations based increasingly on knowledge of life in the West without slowing down expansion in higher priority sectors of the economy. Indeed for many a policy of greater material inducement has probably done little more than to stimulate appetite.

38. It is also clear that even great gains in the material field will not offset the longing of the Soviet population for greater privacy, more free time, less propaganda, and therefore less interference in every way in the life of the individual. This desire for a freer and more open society in the Soviet context is incompatible with the social discipline the party thinks it essential to maintain. The tired evangelism of party propaganda has already lost its appeal to the most alert and vigorous element of the younger generation. The forbidden attractions of the outside world hold more interest for them than the now compromised utopian vision of the founding fathers of the Revolution. The resurgence of political indoctrination since the beginning of the year has featured attacks on Western ideas and practices and praise of personal self-sacrifice in the common interest by Soviet citizens. This propaganda, together with an increase in surveillance and vigilante activities by party "volunteer" groups, is designed to combat "negative" tendencies in the face of the continued disparity between Soviet promises and reality.

39. A stirring among the artistic intelligentsia and among youth, particularly upper class youth, may be significant for the further development of Soviet society, perhaps ultimately even on the political level. Among the intelligentsia a moderate Soviet version of the Polish thaw has continued to persist, the published novel has come to deal more or less

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openly with controversial issues, and the regime is under some pressure to expand the official definition of Socialist Realism so as to include some of the less radical forms of contemporary Western art. The current of dissatisfaction among youth is revealed by the constant struggle of the press and the workers' militia against "hooligans" and "parasites," and by Khrushchev's education reform, with its provision for inculcating the virtues of physical labor (and Communist doctrine) in the oncoming generation.

40. The ferment and discontent in the artistic intelligentsia and among some of the youth do not present a direct or immediate threat to the regime, which has shown both a willingness to tolerate some dissidence as a safety valve, and a determination to make clear that there are definite limits to permissiveness. The regime also attempts to divert discontent by playing up its successes, especially in science and diplomacy, in a patriotic sense. More important sources of change are certain tendencies within the party itself: the decline of political fanaticism, the desire for an end to the tensions arising from the protracted warfare between regime and population, and a growing attachment to professional career interests in place of a single-minded party loyalty. The effects of such tendencies may already be evident in the occasional efforts of the governmental and economic bureaucracy to assert a certain inde-

pendence from the party in the interest of more rational, less demagogic, and even more humane policies.

41. The level of professional education in the party apparatus generally is probably higher now than at any time since the seizure of power. In the years to come the Khrushchevs, Voroshilovs, Mikoyans, Suslov, and Kirichenkos—those who came from humble circumstances and were raised up and educated by the party in party schools—will be replaced by a new generation of leaders having a more pragmatic and cautious outlook, a generation perhaps more inclined to respond to popular needs and aspirations, one less visionary and fanatic.

42. While this generational shift and other changes within Soviet society are likely to affect the methods and style of the regime, we believe that its basic totalitarian character is unlikely to be altered in the foreseeable future. Consequently, its expansionist drive is likely to persist also. Although the Communist ideological outlook originated in a desire to change and improve society, it is the pursuit of power which has become the central motive of the Soviet leadership. Moreover, as Russian nationalists the Soviet leaders will almost certainly continue to act in terms of their belief that the USSR has the historic mission of achieving a dominating position as a great world power.

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## II. DEVELOPMENTS IN THE SOVIET ECONOMY

### SOVIET ECONOMIC POLICY

43. The Soviet economy has lost none of its dynamism in the past year, and growth rates continue high except in agriculture. The leadership, having solved several problems which had threatened to force a slowdown, has turned with undiminished vigor to a campaign for substantial prefulfillment of the Seven-Year Plan (1959-1965) goals. The growth of the economy, and the propaganda setting in which it is displayed, are used to persuade both the domestic and foreign public that the USSR in the not too distant future will actually replace the US as the world's foremost economic power.

44. Overtaking the US in total output is a remote prospect; Soviet GNP is currently estimated at somewhat less than half that of the US. But in more meaningful ways, the economic power of the USSR already compares favorably with that of its chosen competitor. By virtue of complete subordination to regime control, the Soviet economy, despite its smaller size, is presently supporting a military effort which is of the same order of magnitude as the US effort. The USSR is investing in industry for future growth in an amount which already exceeds the 1957 US record. It is supplying a considerable amount of economic assistance, though far less than is the US, to underdeveloped and politically uncommitted countries and is capable of substantially expanding this effort. And its 1965 production levels in certain basic industrial products, chosen by the Soviets from among those which are popularly accepted as indicators of economic strength, will probably approach or even surpass present US records; the steel target, for example, has recently been revised upward to 105 million metric tons, which approximates the US record of 106 million metric tons achieved in 1955.

45. Such accomplishments have been possible, of course, primarily because of the suppression of consumption levels over the past three decades. In recent years, however, the Soviet economy has grown to the point where it can provide steady although moderate increases in consumption without placing serious restraints upon higher priority programs. The regime seeks, not to reproduce the American style of life with its stress on quality and consumer durables and services and its intense cultivation of individual wants, but to alleviate the most glaring grievances of the Soviet citizen, which arise from the shortage of housing and from the poor quality and limited variety of basic consumption goods. In return it counts upon strengthening the loyalty and cooperation of its population and persuading an even wider audience that Soviet socialism leads not only to national power but to rising standards of living.

### PROBLEMS OF INDUSTRIAL GROWTH

46. In the last several years, the USSR has substantially overcome two problems which were clouding future growth prospects. First, the deficiency in new capacity for basic materials industries which came to light in 1956 has been made good; in 1959, for example, production in all phases of ferrous metallurgy, from iron ore to finished steel, ran ahead of plan. Second, the decline in natural increments to the labor force is being largely offset by release of military personnel, reductions in daytime school enrollments, and other schemes. These measures will fill most of the anticipated gap between the 1965 planned labor force and the increases provided by normal growth of the population. Insofar as they fall short, other expedients, such as larger transfers from agriculture, are available to meet or overfulfill the target.

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47. The actual number of man-hours available, however, will grow only slightly, since nearly all the increase in numbers of workers is to be offset by reductions in the work week, which is being cut from 46 hours in 1956 to 40 hours in 1962. Furthermore, in 1964 the transition to 35 hours is to begin. Maintenance of current rates of growth in industry—the 1959 increase is estimated at nine percent—will therefore depend heavily upon higher output per man-hour. This in turn hinges, in the first instance, on providing the worker with new and more productive equipment and machinery and, in the second, on more efficient planning and management.

48. Except in the underdeveloped Eastern regions, the major thrust of the USSR's huge industrial investment program now lies in modernization, re-equipment, and automation of existing factories rather than continued building of new plants. The potential gains from such a program are very large, due to the backwardness of much of Soviet industry, in which nearly half the workers have no machinery and are employed at hand tasks. The new drive accentuates a number of problems, however, which in the past have been difficult for the Soviets to solve. These include the reluctance of managers to interrupt production in order to introduce new models, inordinate delays in carrying through such changeovers and in mastering the new production processes, and unwillingness to rely upon subcontractors to the extent necessary to reap the benefits of specialization. The persistence of such problems was demonstrated at the July 1960 Central Committee plenum, which charged industrial executives with the same faults that were laid to them in a similar discussion a year earlier.

49. In contrast to earlier times, however, the regime is not relying as heavily upon penalty and exhortation to meet these problems. These older techniques are being increasingly supplemented by attempts to enlist the material self-interest of workers and managers. For the former, the first fundamental overhaul of the wage system since the 1930's, designed to increase incentives, has nearly been completed in industry and is well under way

in other sectors. For the latter, the bonus system has been refined to make extra income contingent, not only upon meeting production goals, but also upon fulfilling certain other criteria which are of growing importance as the economy gets larger and more complex: cost reduction, proper assortment, fulfillment of deliveries, introduction of new technology. The quest for managerial efficiency, however, still stops well short of permitting deviations from the plan; in fact, it aims at greater compliance with subsidiary details of the plan where infractions were formerly tolerated.

50. Innovation is also appearing in the work of the planners themselves as the regime seeks a more systematic basis for discovering the most efficient alternatives available to it. Planners and academic economists are being encouraged to debate such ideologically sensitive questions as the criteria of choice for capital investment and price setting, and these debates are not choked off when they infringe upon the traditional orthodoxy. Experiments with programming based on advanced mathematics and computer techniques suggest that the regime is willing to consider more systematic methods of planning if these offer promise of a more efficient fulfillment of its economic requirements. None of the discussions suggests, however, that the leadership might allow basic policy determination to slip into the hands of professional planners, or permit purely economic criteria to alter the basic orientation of the system toward political goals.

51. The system of regional administration of industry launched by Khrushchev in 1957 appears to be working fairly satisfactorily, but experience has disclosed a need for better central planning and control. In April, the function of long-range planning was taken out of Gosplan USSR and given to the State Scientific-Economic Council. By virtue of this, Gosplan will be able to devote more time to short-term planning and to exercise closer supervision over the current operation of the economy. A similar motive was behind the subsequent creation in the RSFSR, the Ukraine, and Kazakhstan of new administra-

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tive bodies (supersovmarkhozes) at the republic level. These units are to coordinate the activities of the numerous regional economic councils in their respective republics. In the first instance, these changes are designed to counter "localism," the tendency to place regional interests ahead of the dictates of the national plan in such matters as making deliveries, in which local economic and party officials frequently colluded. The wide powers of these bodies will probably enable them to achieve a closer adherence to the national plan, but only at the expense of the on-the-spot initiative which Khrushchev was seeking to activate in his 1957 reorganization. Their creation has the further effect of placing important decisions beyond the reach of regional party bosses, whose position vis-a-vis the central bureaucracy is thus weakened.

#### AGRICULTURAL PROBLEMS

52. Difficulties are accumulating in Soviet agriculture. In 1960, for the second year in a row, the weather has been bad and output will be disappointing. This is particularly true of grain, where once again the short growing season in the New Lands has proved to be a heavy obstacle. The poor record in 1959 and 1960 is unlikely to cause shortages of bread supplies, but it is slowing down the rapid gains in livestock products after the boost afforded by the excellent harvest of 1958. The Seven-Year Plan for agriculture and its execution to date both reflect official uncertainty as to the future course of agricultural policy. Farm machinery goals have been subject to revision, the agricultural investment program has not been finally determined, and controversy continues with regard to farm labor policies. Furthermore, the fertilizer production program is not being supported by the requisite chemical plant investment. Accordingly, we estimate that over the course of the Seven-Year Plan, instead of the 55-60 percent net growth implied in the plan, agricultural output will increase by only about one-quarter. This is substantially below the rate of increase achieved since 1953, a period of innovations and reforms whose impetus is now largely spent.

53. The situation and prospects of agriculture are clearly unacceptable to the regime. As a result, institutional questions bearing on the future of the collective and state farms have come to the fore. The need for a new effort to stimulate the backward collective farms, as well as to achieve better direction at the local level, is widely acknowledged and discussed in the Soviet press. A split has apparently developed, however, around the question of whether unions of collective farms should be organized at the oblast and republic levels. Several high party officials favor this method of organization as a means of making the resources of strong farms available to the weaker ones. They also probably believe that such an organization would be more amenable to party control and the inspirational type of campaign characteristic of their political approach. Proponents of the unions may further intend that they should lead to a rapid development of agricultural towns, an old Khrushchevian scheme rejected earlier by Stalin because of its huge cost.

54. This proposal for farm unions has thus far been blocked. Public opposition has been voiced only by agricultural specialists, including the Minister of Agriculture, who is well aware that its implementation would reduce the importance of his organization. Nevertheless, the ministry has been successful to date, and efforts to protect local specialists from party interference are bearing fruit, indicating that the Minister's viewpoint also has its supporters in top party circles. Meanwhile, many other important economic questions, such as the further introduction of cash wages for collective farmers, the transfer of labor from farm to city, and the gradual elimination of the peasant's private garden plot and livestock holdings, have become involved with this organizational issue. All these problems have marked political overtones as well; indeed, agriculture has repeatedly been a political arena throughout Soviet history. No clear-cut decisions on a number of important questions have emerged as yet, but two successive years of poor harvests may well bring matters to a head in the near future.

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## CONSUMER PROSPECTS

55. The agricultural results likely to be achieved over the next several years will place a limit on increases in Soviet living standards. Another restraint is exercised by the regime's priorities, which give defense and investment needs first claim on industry. Considering present plans and taking agricultural shortfalls into account, total consumption is likely to rise by nearly one-half during the Seven-Year Plan, providing an annual per capita increase of about four percent. In housing, where the need is greatest, per capita living space will rise by nearly one-half during the planned period, but will still be below the official norm of nine square meters, which itself is less than one-third of the average available in the US.

56. Khrushchev has taken pains to make clear that Western consumption ideals contain much that is wasteful and luxurious and that the needs of a "healthy" Soviet man are much more modest. The USSR's entry into full communism will be marked, not by individual housing, mass ownership of automobiles, and a wide array of household appliances, but by a better diet, higher quality shoes and clothing, an adequate apartment, and widespread communal services. Promising auto rental fleets, Khrushchev has ruled out mass ownership of private cars; instead of a washing machine for every family, apartment tenants are to use communal laundries. This notion of "all that man really needs" has the advantage of saving heavily on resources, not only those employed in production of houses, automobiles, and refrigerators, but also those needed for electric power, highways, and other associated services.

## MILITARY EXPENDITURES

57. The force reductions currently underway will result in substantial economies in Soviet military expenditures. The savings associated with the planned cut of about 1.2 million men will permit other military outlays to rise by well over 10 percent without increasing total costs. Given such savings, which will cover in large part the increase in costs of developing and introducing advanced weap-

ons, the USSR can carry out its presently estimated military programs with relatively little increase in overall expenditure.

58. About one-tenth of GNP, in ruble terms, is devoted to defense, a share which the Soviet leaders do not appear to regard as excessively burdensome. In particular sectors of the economy, defense requirements are much heavier. For example, defense-related expenditures for research and development far exceed comparable civilian-oriented expenditures. Military priorities in certain industries absorb a very large share of the total product—about two-thirds in the case of the electronics industry. In general, however, military programs and the high planned targets for civilian industry appear to be broadly compatible.

## FOREIGN TRADE

59. Soviet foreign trade, now at an annual level of over \$10.5 billion, will probably increase by about half during the next five years. Its significance for the internal economy lies primarily in the importation of certain types of advanced industrial equipment which are needed to reach the higher technological levels demanded by the Seven-Year Plan. The USSR is aggressively seeking imports of large diameter pipe and chemical, metallurgical, and electronic equipment. Many of these requirements will be satisfied from within the Bloc, mainly from Czechoslovakia and East Germany. In part, however, Western machinery will be needed, particularly chemical machinery to bolster the lagging investment program in this high-priority field. The USSR is seeking credits for up to five years for these purchases and has thus far obtained about \$100 million from Western European firms in government-guaranteed loans. Although such credits will increase the USSR's ability to fulfill its import requirements, its success will depend primarily upon Soviet exports of raw materials and gold (exports to Western Europe in 1959 were \$800 million, while gold sales exceeded \$250 million).

60. Economic credits to underdeveloped countries, which were first extended in 1954, rose sharply starting in the latter half of 1959.

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By the end of the third quarter of 1960 these credits reached a cumulative total of nearly \$2.8 billion, of which approximately \$2.0 billion has already been obligated for specific uses, but less than \$500 million has actually been delivered. In addition to economic assistance, military credits in excess of \$1.1 billion have since 1955 been extended directly by the USSR or indirectly through the European Satellites, of which over \$800 million has already been delivered. Major recent developments include the \$250 million developmental credit to Indonesia, an additional \$125 million loan to India, extension of \$225 million to the UAR for the Aswan Dam's second stage, and the \$100 million credit to Cuba, supplemented by agreements to import Cuban sugar and to cover that country's petroleum needs. Further credit extensions at the recent rate of about \$1 billion per year are well within Soviet capabilities and depend primarily upon the receptivity of the underdeveloped countries themselves.

61. Also important in promoting Soviet influence with these nations is the flow of trade, which has nearly quadrupled since 1954. Thus far, the chief benefit to the USSR's trading partners has been the occasional opportunity to dispose of their surpluses of primary products. In the future, as the economic credits are increasingly utilized, machinery deliveries will assume even more significant proportions in the total of Soviet exports to these countries.

#### PROSPECTS: 1965 AND BEYOND

62. To summarize, we believe that the Seven-Year Plan, in all sectors except agriculture, will be substantially fulfilled somewhat ahead of the 1965 target date. In industry, despite difficulties in particular branches, such as slow progress in mastering new chemical technology and lags in installing new electrical capacity, growth will probably continue to run ahead of the 8.6 percent annual increase needed to meet the plan. Housing construction will probably also remain ahead of schedule. Given average weather, agricultural output should grow about twice as fast as the population (which will increase by about 1.6

percent annually), although this rate will probably not be acceptable to the leadership and will touch off new initiatives. Execution of estimated military programs appears to economies, despite their disparate size, is about equal: pose no major economic problems.

63. These prospects point to an annual growth in GNP of about six percent. The USSR remains able to maintain such a pace primarily because of its willingness to invest an increasing share of total output. This share, which has recently passed the one-quarter mark, should by inference from present plans reach approximately one-third in 1965, in contrast to the 17-21 percent characteristic of the US in recent years. Already, the dollar value of productive investment\* in the two ~~pose no major economic problems~~ economies, despite their disparate size, is about equal.

64. A similar fixation upon growth is evident in the style of leadership to which the Soviet economy is subjected. Solutions of difficulties are taken as the signal for a raising of targets, and an equally determined attack on the next set of problems. An atmosphere of scarcity is inherent in the system and is accentuated by the constant effort to elicit maximum output from workers and managers alike. Despite the errors and waste involved, this kind of purposeful, driving direction is an important factor in sustaining the Soviet growth record. The pace of Soviet effort is also largely responsible for the tensions over economic policy which arise from time to time within the Soviet leadership.

65. Such an investment effort and climate of tension conflict in a fundamental way with two of the main desires of the Soviet population, for a higher living standard and a less demanding, more relaxed style of life. Toward the latter half of this decade, the Soviet leaders may feel themselves able to take greater account of these aspirations. At that time, with investment at such a high level, and with larger postwar age groups moving into the working ages, the regime may judge that the

\*Productive investment includes investment in industry, construction, transportation and communications, and agriculture; it excludes investment in housing, services, trade, health, education, and government.

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economic growth provided by these inputs is sufficiently high and that more of the national product can be diverted to the consumer. In this case, it may gradually broaden the presently quite restricted list of consumer goods and services marked for special attention.

66. We think that any more substantial change in economic policy, however, at a minimum must wait upon the day when the party leaders feel that they have, in some sense, "overtaken" the US. The urge towards this

goal, rooted deeply in ideology and considerations of national power and prestige, is exceedingly strong. Even by Soviet methods of measurement and the Soviet projection of US growth, this time will not arrive before the 1970's in industry. Until this essentially political requirement is felt to be satisfied, the growth impulse is unlikely to weaken. Even then, moreover, the requirements of the struggle for world power would be likely to continue to have the first claim upon Soviet resources.

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## III. SOVIET SCIENCE AND TECHNOLOGY

## SCIENCE IN SOVIET SOCIETY

67. The USSR has for many years placed great emphasis on scientific and technological progress as basic to the growth of its military, economic, and political power. It has allocated a substantial and increasing part of the national product to a scientific and technological effort focused primarily on the building of a strong industrial base and the development of modern weapons. As a consequence, many Soviet achievements in areas of critical military and industrial significance are equivalent to and in a few cases exceed those of the US. Scientific work which is less directly related to industrial development and military power has also received strong support, albeit of lower priority, and Soviet scientists have made outstanding contributions in many areas of fundamental research.

68. The high place assigned science and scientists in Soviet society has been an important factor in scientific achievement. In terms of social position and financial status, Soviet scientists have long constituted a privileged group. They also enjoy great popular esteem, derived in part from traditional European attitudes toward learning, and in part from the influence of an ideology which exalts science. These conditions, together with the fact that many scientific fields permit an escape from immediate political involvement impossible in many other professional fields, have made scientific careers especially attractive to the Soviet intelligentsia. In those areas of learning having no immediate ideological import the current Soviet environment is for the most part favorable. Soviet scientists as a group appear to be dedicated to their work, politically loyal or at least apolitical, and often animated by a spirit of competition with the US. Although party control of science now seems to be tightening, it is directed in the main toward

better administration and a more effective contribution to technological advance, rather than the interference with content and method which characterized the late Stalin period.

## SCIENTIFIC AND TECHNICAL RESOURCES

69. Current plans provide for a considerable increase in the number of scientific institutions and for a geographic decentralization. Two new scientific centers are now under construction at Novosibirsk and Irkutsk. The Novosibirsk center, already partly constructed and functioning, will have 14 new research institutes; the Irkutsk center, scheduled for completion in 1965, will have eight. In addition, current plans call for 34 new scientific institutions in branches of the Academy of Sciences USSR and for 134 in the union republic academies by 1965. A number of the republic academies have 15-year plans which call for significant increases in the number of their research institutions. An expansion of scientific facilities is also being undertaken in the higher educational institutions and in agricultural and industrial research establishments. Initially, this general program of expansion and decentralization will affect some research programs adversely by draining manpower and resources from the older centers. In the long run, however, the increased number of scientific institutions, distributed over a wider area, will probably bring significant gains. Moreover, the location of new research and development activities closer to provincial industrial complexes should facilitate the introduction of new technology into production.

70. The number of college level scientific and technical graduates in the USSR has increased approximately threefold in the post-war period and is now significantly larger than that in the US. As of mid-1960, there

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were about 1,950,000 employed graduates of college-level scientific and technical curricula in the USSR, about 25 percent more than the US. On the basis of current trends, by 1965 the USSR would have about one-third more scientific and technical graduates than the US. Soviet numerical superiority results primarily from the larger number of persons graduating as engineers and agricultural specialists; the US probably will continue for a number of years to lead in the total of physical and biological scientists. Such numerical estimates provide only a rough basis for comparison since: (a) professional categories are not precisely equivalent in the two countries; (b) practices in the utilization of personnel differ widely; (c) they give no weight to qualitative differences; (d) they do not reflect the broader US supply of nonprofessional scientific and technical personnel. We believe that the capability of Soviet scientific and technical professional manpower as a whole is still inferior to that of the US. However, the work of the best Soviet scientists is on a par with that of leading Western scientists, and the quality of the scientific corps generally is rising.

71. It is extremely difficult to determine the magnitude of Soviet research and development expenditures, and particularly to establish a meaningful standard for comparison with US expenditures for the same purposes. A rough estimate indicates that the Soviet outlay has approximately tripled over the past decade and now stands at nearly 45 billion rubles per year. This figure represents about two and one-half percent of the Soviet GNP; it is probable that the US expends about the same proportion of its GNP for research and development. However, the Soviet effort has been far more highly concentrated on fields related to the growth of national power, particularly defense, and gives far less emphasis than does the US to the field of consumer products research and development. While this emphasis will probably continue, the rate at which scientific and technical resources are increasing will permit some greater attention in the future to consumer goods fields and larger technical aid programs abroad.

## ORGANIZATION AND PLANNING

72. The Soviet scientific effort is characterized by highly centralized planning and control. Leading the basic research effort in the USSR is the Academy of Sciences, which numbers among its members the nation's most eminent scientists. There are associated academies in 13 of the 15 Union Republics, and the entire Academy complex employs about 10 to 15 percent of all scientists in the USSR. Within the Academy the traditional emphasis upon theoretical research probably will continue, but Academy institutes have been directed to provide increased theoretical support to applied research. Nearly half of all Soviet scientists are employed in institutions of higher learning which fall under the control of the Ministry of Higher and Secondary Specialized Education. These scientists are concerned primarily with teaching and have devoted proportionately less time to research than those in the academies and the research institutes. However, in the past few years emphasis has been given to interdisciplinary research on selected problems and to research in support of regional economic programs.

73. The remaining 40 percent of Soviet scientists work for institutes which are attached neither to the Academy nor to the institutions of higher learning. Until the economic reorganization of 1957, most of these institutes were subordinated to All-Union and Union-Republic ministries. With the abolition of many of the ministries beginning in 1957, most of the industrial research institutes were resubordinated to the new regional economic councils. Central control has been retained over institutes engaged in high priority research and development programs; these are under the control of State Committees for Defense Technology, Aviation Technology, Radio-Electronics, Automation and Machine Building, Shipbuilding, Chemistry, and Utilization of Atomic Energy. A number of central research institutes in basic industrial fields, such as steel, have been placed under the control of the State Planning Committee (Gosplan). Finally, a number of research institutes are still controlled

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by the remaining ministries, including those in the fields of health, agriculture, and military atomic energy research. Generally, it appears that administrative control over institutions conducting high priority research remains centralized while administration of lower priority research has been decentralized.

74. The regime is also attempting to improve planning and coordination of the total Soviet research effort. Determination of the most important scientific problems is now made by interagency committees, responsible for various areas of science and technology. To see that these problems are given proper weight in research plans is an important function of joint scientific councils, which coordinate research at the institute level on a national scale. Further, provision has been made to integrate the results of research more quickly with production through the State Scientific-Technical Committee of the Council of Ministers, USSR, and through the union-republic scientific-technical committees. These committees, in collaboration with Gosplan at USSR and union-republic levels, formulate national policy in the introduction of new technology and supervise the application of the newest achievements of science and technology throughout the economy.

#### LEVELS OF ACHIEVEMENT

75. The more spectacular Soviet achievements to date have resulted primarily from the concentration of resources in a few high-priority programs, while capabilities in other important areas have advanced more slowly. However, the USSR has the capability and apparently the intention to advance on a broader front. During the past three decades, the USSR has laid a solid foundation for scientific advance. The rate of advance of Soviet science appears to be increasing, and the current Seven-Year Plan, which relies heavily on scientific and technological achievements, is probably providing additional impetus. Thus, significant Soviet advances in science and technology are likely to occur with greater frequency than in the past, and over the next several years, the USSR may achieve world leadership in some additional scientific areas.

76. In the basic sciences, Soviet capabilities are generally good, particularly in the theoretical aspects. Soviet science shows particular strength in physics, mathematics, and the geophysical sciences. It is in these fields that major Soviet advances are most likely to occur. In astronomy, the Soviets are making a determined effort to overcome deficiencies which have resulted largely from insufficient modern equipment. The USSR generally lags behind the West in chemistry, biology, agricultural sciences, and in many aspects of medical research. However, during the next several years there will probably be a major expansion of all chemical research with particular emphasis in fields where the West now leads, such as plastics, petrochemicals, and synthetic fibers. In medicine, certain significant advances, for example in research on cancer or cardiovascular diseases, are probably now as likely to occur in the USSR as in the West. Research in the biological and agricultural sciences is also expected to improve appreciably, but no outstanding discoveries are anticipated.

77. The USSR is continuing its strong emphasis on military research and development. In general, the Soviets place more emphasis on theoretical work and less on empirical methods than does the US. The result is less expensive and sometimes more rapid developmental work. However, the price paid for this approach is sometimes reflected in design deficiencies in the end product. In particular, lack of experimental facilities has hampered aeronautical research and development to some extent, and several Soviet aircraft have revealed serious design defects. Soviet electronics research and development has been outstanding, and notable advances in military electronics can be expected. Soviet basic research in nuclear technology, while highly competent in specific fields, is not comparable in scope and diversity to that in the US. In the weapons field, the variety of types of fission and thermonuclear weapons now available to the Soviets is probably adequate to meet their basic military requirements. The USSR is believed to have comprehensive chemical and biological warfare research programs, and future research

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probably will emphasize new and improved agents, means for dissemination, and equipment for defense.

78. The high priority given to missile and space programs has assured them of capable personnel, high quality facilities, and strong support from associated fields. Soviet achievements of the past year, including the orbiting of heavy satellites and the recovery of experimental animals, indicate that rapid advances in the near future are likely. We believe that the Soviets probably will orbit a manned satellite within the next year.

79. Soviet industry is characterized by marked qualitative unevenness in technological practices between industrial sectors and even within certain sectors generally well developed. In heavy industry, such as steel-making, techniques and equipment often compare favorably with those used in the West. However, industrial practices generally are inferior and sometimes even crude by Western standards. In spite of the effort and resources being devoted to improvement, the magnitude of the problem is so great that the average level of Soviet industrial technology will remain generally behind that of the West well beyond the period of this estimate. The USSR has placed considerable emphasis on computer development and in five years Soviet achievements will probably

be comparable to those of the West in computer technology but not in computer production. There has also been some impressive work in automatic control theory. But despite the new emphasis on automation under the Seven-Year Plan, the extent of its application in industry will probably continue to lag behind that in the West during the period of this estimate for technical and economic reasons.

#### POLITICAL IMPLICATIONS

80. Achievements in science and technology have greatly enhanced Soviet prestige. The earth satellites and the moon rockets in particular have provided impressive evidence of the present high level of Soviet scientific capability, and have bolstered Soviet claims of successes in other fields, particularly in weapons development. By concentrating efforts and resources, the USSR probably will achieve during the next few years a number of additional "firsts" in prestige fields. In the immediate future, these are most likely to occur in the Soviet space program, but the quality and intensity of Soviet research in other fields may also produce spectacular results. These achievements would not only represent solid increments to Soviet power, but also would have considerable psychological and political effect throughout the world.

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## IV. SOVIET MILITARY POLICY AND PROGRAMS

BASIC SOVIET IDEAS ON THE ROLE OF  
MILITARY POWER

81. Soviet ideas about military policy are clearly derived in part from the USSR's position as a great power in a particular geopolitical setting and from unique Russian traditions developed in a long military experience. But the Marxist-Leninist ideological heritage, which the regime makes authoritative for every aspect of Soviet life, has also placed its special stamp on Soviet military thinking. The problem of understanding Soviet military policy, and of estimating the military programs it is likely to produce, begins with certain basic ideas which differ in many important respects from those held in the US.

82. The Communists accept as an article of faith the existence of an ineradicable struggle between their form of society and that of the non-Communist world. They see this as a struggle of classes and social systems, transcending state loyalties; it is not primarily military in character, though it may on occasion take the form of war between states. The Soviets see military power as serving two basic purposes: defense of their system, and support for its expansion. The likelihood of an attack on the Soviet Union is probably believed to have receded over the years as the Soviet Union has developed great offensive and defensive power. However, in the Soviet view the current "relation of forces" places a continuing premium on deterrence of the West not only from deliberate offensive action against the USSR and its interests, but also from undertaking other initiatives to check developments adverse to Western interests.

83. Beyond defense and deterrence, the Soviets see military force as a symbol and instrument of their total power position. In their central concept of a struggle between

social systems, the power wielded by each side comprises several elements. It is political, economic, and psychological as well as military, and these aspects of the total power position are seen as mutually reinforcing. The Soviets expect the world to see in the growth of their military power proof of the success and invincibility of their social system. They expect that their political influence, the number of their adherents in the world, and the effectiveness of their psychological pressures—in short their ability to advance the cause of communism worldwide—will be enhanced with the increase of their military power. They are aware that military power can be used not only in combat but also as an instrument of political pressure. Thus, so long as the Soviet ideological outlook remains essentially unchanged, the enhancement of military power will remain a primary preoccupation of the Soviet regime.

84. While Communist doctrine injects hostility and conflict into Soviet policy, it does not propel the USSR toward war as the primary instrument of policy. Indeed, the Soviets' fundamental belief in the inevitable movement of historical forces to their advantage leads them to prefer to avoid the risks of war. The Soviet view places particular stress upon the principle that use of military power must be geared to the appropriate conjunction of favorable political conditions and limitations on risk. When, in the cases of overt Communist aggression in Finland in 1939, Iran in 1946, and Korea in 1950, their initial evaluations proved erroneous the Soviets settled for less than their original objectives. But they are, as Hungary showed in 1956, likely to be tenacious in preserving a threatened position within the Bloc, even at the cost of considerable adverse political effect.

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85. The fact that history is seen by the Communists as a long-term revolutionary struggle, and not simply as a contest of military power between states, has important implications for the Soviet approach to military policy. Military power in the Soviet view should not be used recklessly to the hazard of the main power centers of communism but should be kept intact and enhanced as a key element of the total power position of the Communist world. As that total power position grows it will encourage and buttress revolutionary forces in the non-Communist states. In particular, the "imperialists" will be deterred from resorting to force to check the forward movement of the "masses" toward communism. Only in exceptional circumstances might Bloc armed force be directly committed to assist a Communist party to accomplish its revolutionary mission and seize power; the Soviets would be more likely to use military force to defend a Communist party once it had achieved power. In any case, the action would be carried out in a manner which the Soviets considered would not jeopardize the security of the centers of Communist power, and would yield them a net advantage in the worldwide struggle.

86. Communists think of the revolutionary struggle for power not only as long-term, but also as continuous. It is not interrupted by formal peace between states, or by "peaceful coexistence." But the Communists recognize that political warfare always carries with it the possibility of resort to force by the enemy or, alternatively, opportunities for the successful use of force by themselves. Communist armed forces must therefore maintain a high level of readiness and must be prepared to operate on any appropriate scale: local, limited, or general. The Soviet leaders, guided by political considerations and revolutionary aims, wish to have maximum flexibility to employ whatever level of violence might be both necessary and expedient in particular situations.

87. Thus the building of military power has had and will continue to have very high priority in the USSR. The Soviet armed forces are intended in the first instance to deter at-

tack on the USSR and other Communist states, and to insure survival of Communist power should such an attack occur. Beyond this, they are regarded as a key element in communism's world power position, buttressing Soviet political, economic, and psychological influence and facilitating the struggle of revolutionary forces for power in non-Communist countries. In general, the Soviets prefer and expect to achieve the spread of communism by political forms of struggle, and by subversion, revolutionary activity, civil war and war by proxy, rather than by direct employment of Soviet forces. However, particular situations might arise in which the Soviets would think that a prospective gain was sufficiently important, and the risks were sufficiently limited, to justify resort to military action by Bloc forces.

#### SOVIET VIEWS ON THE BALANCE OF MILITARY POWER AND ON STRATEGY

88. The acquisition by the USSR of intercontinental missile capabilities is having a profound impact on the Soviet estimate of the balance of military power. The Soviets regard this development as symbolizing the achievement of a new relationship of power in which they believe the "imperialists" are deterred from initiating military actions against the Bloc, and will be increasingly less disposed to risk war for the protection of endangered Western positions. This marks in their view a great historic divide and is the principal reason for their solemn declaration that "capitalist encirclement" has ended. Nevertheless, they also recognize that at present their capabilities are insufficient to insure that if they were to attack the US they could prevent a devastating retaliatory blow. Therefore, the Soviets almost certainly consider that both sides are now deterred from deliberately initiating an all-out nuclear war or from reacting to any crisis in a manner which would gravely risk such a war unless vital national interests were considered to be in jeopardy.

89. In this situation, Soviet strategic thinking assumes that while general war is unlikely, it cannot be entirely excluded as the outcome of a local crisis in which both sides became pro-

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gressively committed or in which a miscalculation by either side occurred. The Soviets are, therefore, unable to be certain in advance what the circumstances surrounding the beginning of a war would be. A concept of preemptive attack—that is, the attempt to anticipate by first assault an enemy who is launching or about to launch an attack—has been discussed in classified Soviet writings, and more ambiguously in public discourse, in the period since 1955. It represents Soviet thinking on one of the possible situations of outbreak of war.

90. There is little question that if the Soviet leaders ever were absolutely certain that the US was about to attack them, and that there was no alternative to war, they would themselves strike pre-emptively. However, such certainty on the part of any country about the intentions of another is extremely unlikely, particularly as the role of missiles increases. The Soviet leaders have probably concluded that it will be impossible to count upon incontrovertible advance evidence that the enemy is irrevocably committed to an imminent attack. Moreover, the compulsion to strike first, when the threat of hostile attack is still ambiguous, declines as missile systems become more important and less vulnerable, and the advantage to be derived from a first strike consequently decreases. That this is the trend of Soviet thinking is suggested by recent assertions that an aggressor cannot neutralize the retaliatory capability of a powerful opponent. Accordingly, the Soviet leaders have in recent years been more concerned with means of enlarging the scope of their deterrent and increasing their capability to wage a war they might not succeed in deterring.

91. While the Soviet leaders recognize the cataclysmic nature of a general nuclear war, Soviet military doctrine has envisaged such a conflict as continuing beyond the first nuclear exchange. Campaigns would be mounted to destroy all opposing military forces and to extend direct Communist control through occupation of the Eurasian periphery. Consequently, both substantial forces in being and mobilization reserves are maintained.

Superiority in the basic military, economic, and morale resources devoted to such land campaigns (supported by missile, air, naval, and airborne forces) is expected to prevail over residual military opposition in Europe and other areas contiguous to the Bloc. Military devastation and political collapse of active opposition is expected in the US and elsewhere in the world. The Soviets are probably not so confident in this image of the course of a future general war—nor so callous of the costs and reckless in evaluating the risks—as to be tempted by it. Nonetheless, it is their stated view of the likely pattern of such a war should one occur.

92. Soviet military thinking also envisages that Soviet forces might be used in limited or local actions. The structure of the military establishment, marked by the retention of large conventional forces, would permit the use of these forces for either small or large scale actions in Eurasia. Given the existence of these forces, the danger arises that the Soviets will estimate that as their strategic nuclear capabilities grow the West will be increasingly restrained from interventions to prevent Communist gains. However, while the Soviets seek to have a military establishment which provides wide freedom of selection of the means and scale of military involvement in any given situation, we do not believe that they plan as a general policy to use their own forces in limited wars. Not only is there a broad preference and intention to expand their influence and eventual control by means short of military conflict, but if it becomes necessary to use overt military forces, they would probably prefer on political and military grounds to limit themselves to logistic and other support of non-Soviet forces.

93. Thus, any use of Soviet forces in limited war would probably be restricted to a scale sufficient only to achieve local political objectives with minimal risk of expanding the conflict to general war. They would be particularly cautious about situations involving a possibility of serious clashes with US forces. The Soviet leaders' willingness to engage in limited war will depend upon their judgment, in particular cases, on the importance of the

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issue at stake, on the extent to which the enemy is able and willing to bring his forces to bear, and on the chances of the situation developing into general war.

94. The Soviets repeatedly assert and probably believe that limited wars would carry particularly great risks of spreading into general war if nuclear weapons were introduced. They will continue to use maximum political measures to preclude in advance the use of nuclear weapons in such conflicts. In actual limited wars, the Soviets would probably exert strenuous efforts to prevent the use of nuclear weapons, and would almost certainly avoid being the first to use them, even if it was to their military advantage. A main consideration causing the Soviets to refrain from use of nuclear weapons would be their estimate of the great political cost to whatever country initiated use of such weapons. Moreover, the Soviets probably believe that in limited conflicts into which they might introduce their own forces they would usually enjoy superiority on a nonnuclear basis. Nevertheless, while the Soviets will be extremely reluctant to employ nuclear weapons in limited conflicts, situations might arise, particularly if the West were to use nuclear weapons first, in which they would consider that the weight of military and political advantage lay on the side of resorting to such use themselves. In such a case, they would still try to circumscribe the use of nuclear weapons so as to minimize the risk of the conflict expanding to general war.

95. The foregoing analysis reflects our belief that the Soviets envisage a situation of mutual deterrence as continuing for the next few years and possibly for longer. The Soviet leaders, however, are unlikely to be content with such a situation or to believe that it must be permanent. They will seek, by intensive research and development programs, and by equipping their forces with advanced weapons as these become available, to acquire a clear military advantage over the West. Whether they succeed in doing so will depend, of course, not merely upon their own efforts but also on those of the West. Should the Soviets achieve what they considered to be a

clear military advantage they would press it ruthlessly, but we believe their preference would be to press it by nonmilitary means, and to attempt to achieve their objectives without actually resorting to general war.<sup>5</sup>

#### PRINCIPAL CURRENT AND FUTURE DEVELOPMENTS IN SOVIET FORCES<sup>7</sup>

96. Soviet appreciation of the new strategic situation, together with the advances in military technology which have helped create that situation, are producing the most important changes in the general structure of the USSR's armed forces since the end of World War II. With the advent and growth of missile capabilities, major transitions in weapons and equipment are underway in Soviet forces, particularly those for long-range nuclear attack and for defense of the USSR against such attack. The Soviets consider that they no longer need standing armies as massive as those maintained in the World War II tradition, and that they can prune away unnecessary and obsolescent air and naval elements. Nevertheless, the Soviets retain a concept of balanced military forces, and to the maximum extent possible these forces will be dual purpose, capable of employing nuclear or nonnuclear weapons.

97. The trends which have been underway over the past several years were given further impetus in January 1960, when Khrushchev and Defense Minister Malinovsky outlined alterations in the structure of the Soviet armed forces and announced a one-third reduction in military manpower, to be carried out by the end of 1961. The program reflects confidence in Soviet attainments in guided missiles and nuclear weapons, and a belief that developments in these and other fields will allow them to meet their military requirements with a smaller standing force, backed up by a strong mobilization capacity. The motivations for the proposed program were

<sup>5</sup>The Assistant Chief of Staff, Intelligence, USAF, does not concur in this sentence. See his footnote to paragraph 9 of the Summary.

<sup>7</sup>For detailed estimates of the present and prospective strength and capabilities of Soviet forces, see Annex A and the tables in Annex B.

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mixed, however, and included political and economic as well as military considerations. There is evidence that substantial reductions have already occurred. Although there is always a possibility of a change of policy, we believe that, barring a serious domestic or international crisis, the Soviets will substantially carry out their announced program to reduce the personnel strength of their armed forces to approximately two and one-half million men.

#### Long-Range Attack Forces

98. Since the mid-1950's the Soviets have been building a stockpile of high-yield nuclear weapons and making intensive efforts in systems capable of delivering them against North America and distant targets in Eurasia and its periphery. At present, the USSR's capabilities for such attacks still lie primarily in its long-range bomber force—the bulk of which is best suited to operations against Eurasia, rather than North America—but this force is now supplemented by ground launched and submarine launched ballistic missiles. The Soviets see in long-range missiles a weapon which would enable them to overcome their inferiority to the US in strategic striking power. The ICBM in particular provides them, for the first time, with an efficient means of delivering a nuclear attack on the US.

99. The Soviets do not appear to believe that a rapid expansion of the ICBM force, taken together with their other offensive and their defensive capabilities, would in the foreseeable future permit them to attack the US with assurance of victory, or without grave danger to their regime. On the other hand, as we have observed above, they do not exclude the possibility of general war arising from miscalculation, and in planning the size of their ICBM force they surely take the possibility of general war into account. Moreover, they are well aware of the political and psychological advantages to be derived from a missile force. In sum, what we can learn of Soviet ideas suggests that the ICBM capability is thought of primarily in terms of deterrence, and of employment should the Soviets finally

conclude that deterrence had failed, and of use as a weapon of political pressure, rather than in terms of the deliberate initiation of general war.<sup>8</sup>

100. Accordingly, we believe that the Soviets will build a substantial ICBM force, even though at present they are not engaged in a "crash" program for the development, production, and deployment of ICBM's. During the past year we have acquired additional evidence to support the view that ICBM test range activities are being conducted at a deliberate pace, and have learned more about Soviet ICBM characteristics and configuration. In a recent intensive review of all evidence on the question of operational ballistic missile launch sites, we have identified three areas in the USSR (other than known test ranges) which we evaluate as possible ICBM launch areas.<sup>9</sup> We have not, however, been able positively to identify any operational ICBM launching facility, nor have we determined the Soviet concept for ICBM deployment. Thus we cannot establish the USSR's present operational strength, nor is our evidence sufficient to provide quantitative definition of Soviet ICBM force goals.

101. We have therefore approached an estimate on the Soviet ICBM program indirectly, by examining the tasks and problems which would be involved in the production and deployment of ICBM's under programs of different magnitudes. From this study, which utilized all the direct and indirect evidence available to us concerning the scale and tempo of the Soviet effort to date, three illustrative programs emerged. Individual members of the United States Intelligence Board hold divergent views as to which of these most nearly approximates the actual Soviet program. The illustrative programs and the differing views concerning them are set forth

<sup>8</sup> The Assistant Chief of Staff, Intelligence, USAF, does not concur in this paragraph. See his footnotes to paragraphs 9 and 18 of the Summary.

<sup>9</sup> The Assistant Chief of Staff, Intelligence, USAF, has already identified what he believes to be over 20 ICBM and MRBM launch areas, each of which contains an undetermined number of launchers under construction or in place.

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in Annex A. For the near term, these programs range from one providing a few operational ICBM launchers in mid-1960 and about 50 in mid-1961 to one providing about 35 launchers in mid-1960 and about 200 in mid-1961.

102. It is difficult to translate these numbers into well defined capabilities, since their effectiveness would depend on the precise characteristics of the weapons system and on the circumstances under which the force was employed. Broadly speaking, assuming favorable circumstances, the smaller force would provide the USSR with an ICBM capability to inflict massive destruction on the principal US metropolitan areas sometime in 1961. The larger would provide such a capability before the end of 1960; it would provide sufficient ICBMs and launchers to threaten the SAC operational air base system at the beginning of 1961. If they had a force of 200 ICBMs on launchers in mid-1961, Soviet planners could have high assurance of being able to severely damage most of the SAC air base system, together with whatever aircraft were on base. The extent to which such an attack could actually blunt the US retaliatory blow would depend on many factors, such as the degree of surprise and simultaneity achieved in the initial Soviet salvo, the number of SAC aircraft on base and their reaction times, and the strengths and readiness of other US nuclear delivery forces.

103. There is wider divergence in our views of the Soviet ICBM program for the period beyond 1961, but we are agreed that Soviet planning for that period will be substantially affected by the development of US long-range striking forces, the prospects for a greatly improved Soviet ICBM, and the prospects, on each side, for an effective defense against ICBMs. It will also be influenced by the general development of the world situation and of relations between the US and the USSR.

104. We continue to estimate that the Soviets will acquire, by 1960 or 1961, a force of 700 n.m. and 1,100 n.m. ballistic missiles capable of seriously damaging most of the major land bases of Western nuclear striking forces within their range. The number of Soviet

missile-launching submarines will increase gradually, but this force will remain subordinate to ground-launched missiles in its importance. Both ground and submarine-launched missile capabilities will be improved during the period of the estimate by the introduction of more sophisticated equipment, including ground-launched ballistic missiles of about 2,000 n.m. range and nuclear-powered missile submarines. Increasing Soviet reliance on missiles will reduce the numbers of bombers in Long Range Aviation. Nevertheless, it is likely that in 1965 the USSR will still retain a substantial long-range bomber force and in the interim will continue to supply it with improved equipment, including supersonic medium bombers and more advanced air-to-surface missiles.

#### Air Defense Forces

105. From the Soviet point of view, powerful air defense forces complement the strategic attack forces in their contribution to deterrence and to the USSR's general posture of strength. The scale of effort presently being applied to continued improvement and modernization of the USSR's air defenses is indicative of the high priority assigned to this mission. This priority stems from a variety of factors: concern for the security of the base of Communist power, suspicion of Western intentions, uncertainty of the success of Soviet offensive strikes even if conducted under conditions of maximum surprise, and respect for the destructive potential of the varied and widely deployed Western nuclear delivery forces.

106. Despite the prospect that the ballistic missile will ultimately become the principal Western strategic attack weapon, Soviet planning evidently assumes that bomber aircraft will remain a substantial threat for some years. There has already been a significant improvement in Soviet defense capabilities against medium and high altitude bomber attack. During the past two years the USSR has been rapidly acquiring a major operational capability with an improved surface-to-air missile system, which is presently deployed in defense of major population, industrial,

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and other centers and also appears suitable for the defense of field forces. The current widespread deployment program in the USSR will probably be completed within the next year. Surface-to-air systems designed to cope with low altitude air attack will probably also begin to become operational within the next year. Although the total number of operational Soviet fighter aircraft will probably be reduced by over half in the 1960-1965 period, substantial numbers of fighters will be retained in the air defense establishment, including more advanced fighters and fighter armament which will continue to be introduced through at least the next few years.

107. The USSR does not now have a defense capability against ballistic missiles of any type. There is firm evidence, however, that it has extensive, high priority research and development programs in the fields of warning and defense against such missiles. It is almost certain that the Soviets are now developing a static antimissile missile system. Considering their progress to date, their technical capabilities, and the advantages to them of an early deployment, we estimate that in 1963-1966 the Soviets will probably begin at least limited deployment of an antimissile missile system of undetermined effectiveness. Such a system could be adapted to provide the USSR with a limited capability to destroy earth satellites in the 1963-1966 period.

#### Theater Field Forces

108. Soviet military policy, as applied in particular to forces designed for combined arms operations in Eurasia, will almost certainly continue to rest on the concept of an appropriate balance between conventional and nuclear capabilities. The Soviets continue to believe that a general war launched with long-range nuclear attacks would turn into a protracted struggle in which other forces would be needed on a large scale. But at least as important is their desire to have a range of capabilities permitting flexibility in the choice of means and the scale of operations in accordance with the political objectives sought in a particular area. While the direct employment of Soviet forces in limited war does

not now appear to be a deliberate policy, they will wish their forces to be prepared for such a contingency.

109. The current force reductions will probably reduce Soviet capabilities for concurrent large-scale invasions of peripheral areas without prior mobilization. However, capabilities for military operations in any given theater on the periphery will be increased as improvements in mobility and firepower occur. Major trends over the next few years will include: (a) growing reliance on guided missiles and unguided rockets for support of field force units; (b) sharp cutbacks in the jet fighter and light bomber strength of supporting air units; (c) considerable reduction in the number of combat ready and low strength line divisions, but greater emphasis on armor, mobility, and firepower. There will probably be a major improvement in airlift capability, but amphibious assault capabilities will remain quite limited. Finally, Soviet statements have emphasized, in connection with the present force reductions, that substantial reserves will be available for ready mobilization.

#### Naval Forces

110. The Soviets apparently consider that the principal missions of their naval and naval air forces are to assist in countering the Western strategic air threat (especially that originating at sea), to interdict Western sea lines of supply, and to conduct defense of sea approaches. In addition, as more missile-launching submarines become available, the navy will participate increasingly in the mission of long-range attack. The Soviets continue to believe that a large submarine force should be the principal element of naval strength designed, in the USSR's particular geographic circumstances, to meet these requirements. They will therefore continue to give priority to submarine development.

111. Another major aspect of Soviet naval programs during the period will be antisubmarine warfare. The USSR will almost certainly continue to improve its ASW capability, through improved equipment and techniques. The Soviets will work to counter the threat

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posed by US missile-launching submarines. It is likely, however, that they will be able to develop only a limited capability against such submarines over the next five years.

112. The Soviet military force reductions will bring, in the near term, an acceleration in the retirement of overage units in both the surface and submarine forces. Other units, including a number of cruisers, will be assigned to reserve or inactive status. The emphasis in the surface fleet will be on destroyers, escort types, and patrol craft, and on the equipment of ships with surface-to-surface and surface-to-air missiles and ASW weapons. We believe that current changes in Naval Aviation reflect a redefinition of its functions; its responsibility for air defense has been removed with the elimination of its fighter component, while its role in antisubmarine warfare and in operations against Western carrier task forces is increasing. Whatever fighter air cover the fleet receives will now have to be furnished by other than Naval Aviation units.

#### Capabilities for Distant, Limited Military Actions

113. Soviet theater forces, including ground armies and supporting air and naval strengths, are primarily designed to conduct large-scale campaigns in areas contiguous to the Bloc. In recent years, there has been a tendency on the part of the Soviets to concern themselves politically with crises at considerable distances from Bloc borders: for example, in Iraq, Cuba, and the Congo. The Soviet attitude with respect to such situations has increasingly implied a threat of military intervention. We do not believe that the USSR intends as a matter of policy to conduct limited war at remote ranges, but occasions may arise where a military presence or show of force would be regarded by the Soviets as politically useful.

114. In any present effort to deploy military forces rapidly to distant areas, and to maintain them once deployed, the USSR would be greatly handicapped, partly by limitations on air and sea lift and even more by the absence of political arrangements to insure reliable logistic support. Moreover, the USSR

has not established any special military component trained and equipped specifically for independent small-scale operations, although of course it could employ portions of its existing forces on an *ad hoc* basis. It is possible that over the next few years the Soviets will seek to improve their capabilities for distant, limited military operations through the designation and training of appropriate forces, and the development of suitable equipment for their use and logistic support. They may attempt to overcome their geographic disadvantage for applying such forces by negotiating with neutralist countries to establish facilities for refueling and maintenance of Soviet military aircraft or naval ships.

#### MILITARY POLICY TOWARD OTHER BLOC NATIONS

115. The Soviets will continue to regard their military relations with the East European Satellites under the Warsaw Pact as an important element in their total strategic posture. Satellite territory extends the Soviet defense perimeter, especially for early warning of air attack, and provides a base for the forward deployment of bloc military strengths. The contributions which could be made by the armed forces of the satellites would vary with the circumstances: they are probably greatest for augmenting a threat of limited military action, and least in the event of general war. Satellite armed forces could probably maintain internal order and stability against small scale or sporadic popular uprisings, but they probably could not be relied upon in the event of widespread popular revolt.

116. The Soviets will almost certainly not provide the East European Satellites with nuclear weapons or long-range delivery systems. On the other hand, they have exhibited willingness to supply up-to-date equipment for such purposes as air defense. In recent months there has been evidence of construction of surface-to-air missile sites around Berlin, and in Bulgaria and Albania. (The sites around Berlin, apparently under construction by East German personnel, are in addition to those previously constructed and manned by Soviet personnel in the vicinity of Soviet occupied

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installations.) In the next few years, surface-to-air missile defenses will probably be provided at East European capitals and possibly at some other locations of economic and military significance.

117. The Soviets have regarded the stationing of Soviet forces in satellite territory as valuable, not only because of the advantages of a forward military deployment against NATO, but also to support their political objectives in Central and Eastern Europe. The cut in the size of Soviet forces generally may result in additional withdrawals from East Germany, Poland, and Hungary. This would support Soviet disarmament propaganda and the claims being made for the independence and stability of these countries. Although the Soviets will probably feel obliged for the foreseeable future to maintain substantial forces in East Germany, we believe that significant reductions, perhaps up to half of the 20 divisions stationed there, could be made without hazarding the internal security of the regime.

118. The nature and scope of future Soviet military aid to Communist China will depend primarily on the course of political relations between the two regimes. From the military point of view, the USSR's alliance with Communist China has important advantages to both parties. Despite the increasing capacity of the Chinese to produce conventional military equipment—a capacity developed with considerable Soviet assistance—the Chinese

remain heavily dependent on the USSR and East Europe for many kinds of military equipment and supply, including POL. The very large Chinese forces add to the military strength of the Bloc, pose a threat to contiguous areas of the Free World, and impose constraints on Western policy in Asia. The USSR is dependent on Chinese capabilities to extend its air defense, especially its early warning perimeter. Thus military advantage is a cohesive element in the Sino-Soviet relationship.

119. A major issue in the relationship is the question of nuclear weapons for China. The Soviets almost certainly have not supplied any stockpile nuclear weapons to the Chinese, and there is evidence that Chinese desires for such weapons have contributed to the tensions within the alliance. On the other hand, the USSR has been providing substantial aid in research and development in the general nuclear field, despite its probable reluctance to see China possess a nuclear weapons capability of its own. Communist China's attainment of the capability to detonate its own nuclear device in the near term rests almost entirely on the nature and extent of Soviet aid.<sup>10</sup>

<sup>10</sup>For estimated Chinese Communist capabilities to develop nuclear weapons, see NIE 100-4-60, "Likelihood and Consequences of the Development of Nuclear Capabilities by Additional Countries," dated 9 September 1960. See also the forthcoming NIE 13-2-60, "Chinese Communist Atomic Energy Program."

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## V. SOVIET RELATIONS WITH OTHER COMMUNIST STATES

120. The Sino-Soviet Bloc claims to have developed interstate relations of a historically new character which are, thanks to Marxist-Leninist principles and the absence of national antagonisms under "socialism," based on complete equality. In fact, certain historical and doctrinal factors have combined to make the status of members of the Bloc extremely unequal and to confer on the USSR a virtually commanding role. These factors include the immensely greater military and economic power of the USSR, its historical precedence as the first Communist state, the long personal ascendancy of Stalin over the international Communist movement, and the tradition of dictatorial centralism in that movement.

121. Despite these factors working for Soviet authority and therefore helping to maintain outward unity, the ideal image of harmony within the Bloc has been rudely disturbed on several occasions—by the separation of Yugoslavia in 1948, by the anti-Soviet troubles in East Germany in 1953, and in Poland and Hungary in 1956, and more lately by the serious frictions in Sino-Soviet relations. In the long run, the most serious question hanging over the future of the Communist world is whether a political system so profoundly antinational in principle can avoid intolerable internal tensions in a century when nationalism is a dominating political force.

## SINO-SOVIET RELATIONS

122. Although the tensions in Sino-Soviet relations have entered upon an acute phase in recent months, there is little doubt that some degree of friction has been present throughout the history of the alliance. We know little of the early years, but it is evident from the concessions made to China in the renegotiation of basic agreements in 1954 that

Stalin's successors felt obliged to accommodate China's complaints about his policy. It was inevitable that the ideological bond should fail to suppress entirely the natural conflict of interests between two great powers of such different historical and cultural traditions.

123. From the beginning, moreover, China had a special status in the Bloc because the Communists achieved power (as had the Yugoslav Communists) almost entirely by means of their own forces, and because they subsequently were able to retain an independent apparatus of political and military control. The size and remoteness of China also made impracticable the kind of direct Soviet control which obtained in Eastern Europe. The Chinese Communists were thus able to mold internal policy to fit the special problems which they faced in China whether or not that policy happened to correspond with Soviet experience, and to reshape Marxist-Leninist doctrine accordingly. For example, their introduction of the "communes" in 1958 drew sharp Soviet displeasure. Finally, as China grew in power and became more capable of pursuing its own foreign policy interests, it became increasingly disinclined to accommodate those interests to the requirements of a general Bloc line laid down in Moscow.<sup>11</sup>

124. The present crisis in the alliance has stemmed largely from a basic difference, dating back to 1957, as to the correct strategy to be pursued in the world Communist struggle. The Soviet view has been that, although a "decisive shift" has occurred in the balance of forces "in favor of socialism," Western power is still considerable, and therefore un-

<sup>11</sup> A fuller account of the evolution of the alliance and of the basic sources of conflict within it will be found in NIE 100-3-60, "Sino-Soviet Relations," dated 9 August 1960.

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due risk of war should be avoided. In taking this view the Soviets have been particularly conscious of the consequences of war with nuclear weapons. They have also believed that within a framework of political-economic struggle the prospects were good for an expansion of Communist influence in underdeveloped and uncommitted countries. They also consider that the Bloc, during the present phase, should rely primarily on collaborating with and gaining influence over the national bourgeois leadership of these countries rather than on direct revolutionary action against this leadership. The Soviets also see advantages to be gained under certain circumstances by a limited detente with the West.

125. The Chinese, however, have viewed the military strength of the Communists as superior to that of the West. They maintain that, though a general war is undesirable, fear of it should not act as a curb on Communist policy since superior strength and the trend of history ensure that the Communist cause will emerge victorious. The Chinese have argued in particular that local war is probably unavoidable if Communist advances are to be made. They believe that excessive reliance on East-West negotiations and the "peace" movement in the West dulls the militancy and vigor of the Communist movement. The general outlook of the Chinese has led them to press for revolutionary action on all fronts, and to oppose Soviet gradualist policies in the underdeveloped countries and Soviet "detente" policies toward the West. In sum, the differences between the two allies focus on the degree of risk which ought to be assumed in the world struggle.

126. These differences over general Communist strategy have been reflected in a number of specific critical questions. The nature of military cooperation between the two powers has been affected, including in particular the sensitive issue of the extent of Soviet assistance to China in the acquisition of nuclear weapons. For the Chinese the liquidation of Nationalist China and the winning of Taiwan is a far more vital and urgent matter than it is for the Soviets; the latter almost certainly have been concerned at the risks the Chinese

were prepared to run on this issue. The Chinese border dispute with India and Peiping's support of the Chinese minority against the Indonesian Government were seen as tactless and unwise by Moscow. Chinese advice to various Communist parties—e.g., in Iraq and Latin America—to adopt aggressive tactics of revolutionary struggle ran counter to the Soviets' more cautious line of guidance.

127. The disagreement over these issues assumed a critical form in the spring of 1960, when a series of Chinese moves openly challenged the USSR. First, several articles in the Chinese press in April put the Chinese stand in terms of basic Marxist-Leninist doctrine and thereby carried the dispute to the entire Communist movement. Second, the Chinese undertook direct action by opposing the Soviet line openly at international Communist-front gatherings—a particularly serious breach of "proletarian solidarity" in meetings which included non-Communists—and even by brazenly lobbying among the delegates during the sessions. At this juncture it became clear that Peiping was presenting a major challenge to Moscow's position as the final authority in the Communist movement. Communist China was certainly aware that such a showdown was inherent in its policies but, desirous of obtaining a freer hand for itself and maximizing its influence in world Communist councils, it did not shrink from pushing the dispute to this point.

128. In response to this challenge, Moscow itself went over to the attack at the Bucharest conference of Communist parties in June. The Soviets circulated documents strongly criticizing the Chinese, and Khrushchev and the Chinese delegate evidently had some heated exchanges. Despite a communique which purported to express agreement, this conference actually heightened the differences. Subsequently, a substantial number of Soviet technicians were withdrawn from China and Moscow launched a major campaign throughout the Communist movement to isolate the Chinese and force them to retreat. The intensity of this campaign, which in certain respects resembles the one undertaken against Yugoslavia prior to the 1948

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break, has indicated that the Soviet leaders are determined to press for a solution of the dispute substantially on their terms, even at the risk of a still more serious deterioration in relations.

129. Since the circumstances described above involve fundamental differences, it seems to us virtually impossible that there can be a lasting reconciliation and a return to the relationship of earlier days, with the Soviets dominating a closely-knit alliance. Moreover, on the Chinese side, factors of arrogance and pride are involved. Chinese power is growing, and as it grows, the leverage provided by Soviet assistance is becoming less effective. On the Soviet side, a train of action has been undertaken that may be very difficult to stop or to reverse. The Soviets have committed themselves to enforce discipline; if they fail, their authority in the entire Communist movement will be jeopardized. There is also a factor of personal antagonism between Khrushchev and Mao-tse-Tung, and the standing of both in the international Communist movement has been engaged.

130. On the other hand, the cohesive forces of the alliance are still powerful: the recognition of a common enemy in the capitalist world, the dependence of the Chinese on the USSR for economic, military, and political support, and the many strategic advantages which the alliance confers upon the Soviets. Both countries, moreover, recognize the disaster to world communism which an open breach would entail. North Korea, North Vietnam, and Outer Mongolia could hardly hope to escape being caught in a struggle between Moscow and Peiping for their allegiance. To a lesser but still important extent, factionalism would be stimulated in all Communist parties, both within and outside the Bloc, since they would be subject to a cross-fire of conflicting doctrine and tactical advice. And the effectiveness of communism's drive against the non-Communist world would be gravely impaired by its loss of a single, unchallenged source of authority.

131. It seems probable, then, that there will be no clearcut or lasting solution to the dispute between the two great Communist

powers. Both sides will have strong incentives to patch up the dispute by some sort of compromise, possibly in the form of Chinese agreement to desist from active propagation of dissident views in return for a commitment by Moscow to pay more heed to Chinese opinion. There may be meetings followed by announcements of reconciliation, especially on points of doctrine, for the Communist dialecticians are ingenious enough to find a verbal synthesis of their differing views. It will not be so easy to settle the key problem of authority in the Communist world, however, and we do not believe that it will be settled. It is likely to come to the fore and recede into the background in response to the many complex forces both inside and outside the Bloc which operate on the relationship.

132. From the Soviet point of view such a situation will be highly unsatisfactory. The very fact of compromise will be indicative of the USSR's inability to enforce submission to its authority. Indeed, to the extent that an estrangement between the two powers is suspected or visible, it will tend to have some of the same effects as an open break, though obviously in less acute form. It might have the effect of stimulating a further loosening of the Bloc structure. In particular, Moscow's failure to enforce subservience on China might encourage some Eastern European leaders to seek additional autonomy.

133. The implications of the situation for the US cannot be definitely foreseen. It is clear that the shifting relationship between the USSR and Communist China will introduce new complexities into the world situation, some of which may be advantageous, and some disadvantageous to the US. The restraining influence of the USSR upon Chinese foreign policy, for whatever it may have been worth, will almost certainly diminish, and this may bring additional dangers for the US in the Far East. On the other hand, a weakening of the solid front of world communism, accompanied perhaps by rivalries between Soviets and Chinese for influence in various parts of the world, could redound to the West's advantage. The Sino-Soviet relationship, as it develops during the period of

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this estimate, is almost certain to provide opportunities on which the US may capitalize as well as dangers which may be difficult to meet.<sup>12</sup>

#### RELATIONS WITH THE EAST EUROPEAN SATELLITES

134. From Moscow's point of view, the recent trend of its relations with the European satellites has probably been favorable. By reducing its direct intervention in satellite affairs, by relying more on the loyalty of local Communist leaders, and on the fundamental reorientation of the national economies toward the USSR, Moscow has gradually placed its hegemony on a sounder footing. The local Communists are pressing forward at varying speeds to fashion the political, economic, and social structures of their countries more or less in the Soviet image. Although potential sources of instability remain, and basic hostility to the Soviet-imposed regimes persists, there is a tendency with the passage of time and the improvement in living conditions for a wider degree of resigned collaboration to develop in the populations.

135. The chief unsettling factor at present in Soviet relations with the Satellite regimes is Moscow's present dispute with Communist China. Since the Bucharest meeting in June the Soviets apparently have had little trouble in obtaining manifestations of loyal support from the East European parties. Albania, however, in defiance of the general trend, has publicly expressed its support for the Chinese Communist position, and Peiping has reciprocated with encouragement and material support. The strong anti-Yugoslav attitude of the Chinese appeals to the Albanians who are, moreover, less accessible to direct Soviet pressures than the other satellites. Even so, Mos-

<sup>12</sup> The Assistant Chief of Staff for Intelligence, Department of the Army, and the Director of Intelligence, Joint Staff, believe that, in spite of Sino-Soviet frictions, the USSR and Communist China will continue to be firmly allied against the West and will render one another mutual support whenever an important interest of one or the other is threatened by the non-Communist world.

cow's inability to date to bring Albania into line suggests that, in instituting more flexible controls after Stalin's death, the Soviets have somewhat undermined their ability to unseat one faction and install another within a satellite party. The longer Albania's intransigence continues unchecked, moreover, the greater will be Moscow's difficulty in imposing discipline on other parties. The bulk of opinion in the Eastern European parties, however, is now apparently repelled by Chinese extremism and regards Bloc unity under Soviet authority as the best guarantee of survival.

136. At present the dominant trend within the satellite countries is toward further consolidation of political control and stability, and toward continued economic growth, although the degree of progress varies from country to country. The collectivization of agriculture has been largely achieved—at least in its outward forms—in all the satellites except Poland. In Czechoslovakia, effective socialization is so far advanced that Moscow has now allowed it to become the first nation outside the USSR to achieve a fully "socialist" status. As evidence of its new status, roughly equivalent to that claimed by the Soviet Union in 1936, the Czechoslovak regime provided itself with a new constitution, and carried out an extensive structural reorganization of the party, the economy, and the government administration. It has changed its name to the Czechoslovak Socialist Republic, indicating that it is no longer a "people's democracy," but is now a "socialist" state.

137. Special problems persist in Poland and East Germany. In the former, Gomulka continues to pursue an independent internal line which in important respects is conspicuously discordant with the general trends in the other satellites. Khrushchev evidently continues to agree that Gomulka's course is required by the strength of nationalist feeling among the populace, and the inadequacy of political control in the countryside. These conditions oblige the regime to maintain its conciliatory attitude toward the independent Polish peasantry and to preserve a working

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relationship with the Church. Freedom from the more obvious oppressions of the police state, though progressively limited since 1956, remains greater than elsewhere in Eastern Europe, and if anything, the differences between the tempo of socialization in Poland and that of the other satellites continue to widen. Despite potential difficulties, however, Poland at present is participating in the general trend toward political stabilization and economic advance in Eastern Europe.

138. In East Germany, the Communist regime, buttressed by Soviet troops, remains free of any immediate internal threat, although it continues to be plagued by problems which have been aggravated by its own policies. The collectivization of agriculture and the sharpening of the Berlin crisis have resulted in considerable increases in the flow of refugees to the West during the past year. Apart from the refugee exodus, the chief concern of the regime is with the recalcitrant attitude of the peasantry and with the disruption of its supply and distribution apparatus in the countryside which followed in the wake of the all-out collectivization of agriculture in the spring. Problems of lesser magnitude exist in the industrial sphere; these may be magnified if the recent cancellation of the interzonal trade agreement by the Federal Republic, in retaliation for restrictions on West Berlin, leads to a serious curtailment of trade with the West. Although economic advance has made for greater stability, the more fundamental weaknesses of the regime will remain.

#### LONG-TERM OUTLOOK FOR THE COMMUNIST BLOC

139. Given Moscow's will for domination, it seems unlikely that interstate relations in the Communist camp will soon allow for any significant degree of genuine national independence. The notion of the disappearance of conflict of interest under communism is a fiction sustained only by Soviet domination and the habitual secrecy of inner Communist politics. It is probable that the rigidity of Soviet control over the satellites will be further attenuated. But we also believe that in Eastern Europe Soviet hegemony will generally succeed for the foreseeable future in containing potential conflicts of interest and in preserving the facade of unity.

140. The case of China is different, however, because of its weight as a great power in its own right and the genuine autonomy of its Communist party. It is possible that China will leave the Bloc and become a second center of Communist authority with its own retinue of client states and parties. Alternatively, the presence of China as a second great power within the Bloc system may alter the terms on which relations among Bloc states are conducted: If the Chinese break the rule that Moscow must be the one controlling center for world communism in all essential matters, a degree of maneuver may come into play in the relations of all the Bloc states. In this case, despite Communist doctrine to the contrary, relations among these states may ultimately come to be not greatly different from those which obtain within alliances of national states outside the Bloc.

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## VI. SOVIET FOREIGN POLICY

SOVIET OUTLOOK AND STRATEGY  
IN THE CURRENT PERIOD

## Appraisal of Trends in the World Situation

141. For the past several years the Soviet leaders have evinced great confidence in the advance of their fortunes. They have considered "the relation of forces in the world arena" to be moving irrevocably toward enhancement of the USSR's position. Soviet achievements in space and with ICBMs, symbolizing as they have the general advance of Soviet scientific and economic power, have particularly stimulated this optimistic appraisal. To the Soviets, the acquisition of intercontinental military capabilities marked a major turning point in world power relations. It meant that the "imperialist powers" were obliged to give up any further hope of destroying the Communist regimes by force, and would even be increasingly unwilling to run a serious risk of general war except in response to a direct and vital challenge of the first magnitude. The Soviets believe that not only has the security of the Bloc been greatly enhanced, but also that US freedom of action is being constricted and Soviet freedom of action enlarged.

142. At the same time, the world environment has been viewed as offering promise for Soviet success in a struggle waged in terms of "peaceful coexistence." The Soviet leaders believe that the movement of political forces in the world is favorable to them, and contrary to the interests and position of the Western Powers. In particular, the movements for peace and disarmament, national liberation, and social and economic reform have all been seen as more amenable to their own influence than to that of the Western Powers. In the US and other developed Western countries they have seen no near-run prospects

for direct Communist advance, but even there they have believed that there was a loss of dynamism which would make these countries increasingly vulnerable to the Communist challenge in the long run, the more so as the "imperialists" become isolated in the world.

## Attitude Toward War

143. Questions of peace and war have always been regarded by the Soviet leaders as matters of expediency, to be solved by a careful calculation of the risks and advantages, military and political, short- and long-term, which are involved. A new element in Soviet expression during the last few years has been a growing recognition of the incalculable disaster that would be visited upon both sides in a general nuclear war. This has even led to reformulations of Marxist-Leninist doctrine providing an appropriate theoretical justification for excluding war as an instrument of policy. Clearly the Soviets do not, at present, regard general war as an expedient or feasible course of action. Moreover, although the Soviets are vigorously building their military power, both offensive and defensive, they probably do not count upon acquiring, at any foreseeable point of time, an advantage so decisive as to permit them to launch general war with assurance of success and under conditions which would not gravely menace their regime and society.<sup>13</sup>

144. The Soviets are also aware that any limited war carries danger of expanding into general war; the danger may be great or small depending upon the issues at stake in the conflict, the scope of operations, the forces involved, and the general circumstances. Al-

<sup>13</sup> The Assistant Chief of Staff, Intelligence, USAF, does not concur in these two sentences. See his footnote to paragraph 9 of the Summary.

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most certainly the Soviet leaders would not deliberately initiate or provoke a limited conflict which, in their calculation, involved serious risk of expanding to general war. For example, we think they would not launch a direct attack with Soviet forces on an ally of the US, or involve themselves in a direct military confrontation from which they thought they could not extricate themselves should it become necessary. As a general rule, we believe that the Soviets would consider that the initiation of limited war with Soviet or even of Bloc forces entailed unnecessarily high risks and political liabilities.

145. This does not mean that the Soviets exclude all armed conflict as a means of advancing their interests. On the contrary, we believe that they will, when a particular combination of circumstances seems favorable, incite or exploit a local situation of unrest, violence, or civil war, and support their interests in the situation with material aid or even intervention by proxy. It is possible also that they may at some point judge the circumstances favorable for offensive action by the armed forces of another Communist state—perhaps Communist China or North Vietnam—and will approve or even encourage such action. And if the West were to use armed force in some local situation, or in certain circumstances even if the West seemed about to introduce force, the Soviets might respond by intervening themselves; they might even consider the threat to their interests so compelling as to require them to accept serious risks that a local conflict might expand into general war. In sum, while the Soviet attitude toward limited war will almost certainly be one of great caution, their decision in any particular situation will be governed by their estimate of that situation, in its political as well as its military aspect.

146. There is a danger, of course, that the Soviets may underestimate the risks arising from some particular initiative, especially since they may think that their own strategic strength is increasingly inhibiting the reactions of their principal opponents. Even though we believe therefore that the Soviets will not intentionally provoke serious

risks of general war, and will probably draw back in almost any situation in which they estimate that such risks have developed, we also believe that there is always a chance of their miscalculating the risks. Indeed, the tendency at present to extend Soviet political involvement around the world, together with real or imagined changes which could develop in the relationship of their military power to that of the US, may lead them from time to time to increase pressures and thus to raise the likelihood of miscalculation.

#### Strategy and Tactics

147. The strategy of "peaceful coexistence" is the Soviet leaders' response to the problem of pursuing their aims of expansion without incurring serious risks of war. It means continuously and vigorously pressing various forms of struggle, particularly political, economic, and subversive. The main enemy is conceived to be the group of major "imperialist" powers who are regarded as the only serious obstacle to the worldwide expansion of Communist power. The contest is to proceed by a steady attempt to undermine their power and influence around the world. The hope is that as their position becomes more and more constricted they will submit peaceably to Communist ascendancy. To persuade them to do so step by step, pressure on their positions is alternated with the promise of detente. Thus the strategy of peaceful coexistence cloaks itself in propaganda appeals for relaxation of tension and the pursuit of peace for the sake of peace. But fundamentally underlying it is the Soviets' recognition that, unless they are prepared to abandon their expansionist aims, they have no alternative, while the relationship of military power remains essentially as it is today, but to pursue their aims by limited forms of struggle which would avoid the ultimate risks.

148. Not least among the evidences of the durability of this coexistence line has been Soviet persistence in its propagation, defense, and ideological justification at the cost of a debilitating and potentially explosive dissent by the Chinese Communists. The Soviets have clearly regarded their views on this

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matter as fundamental enough to risk the unity of the Communist Bloc and movement.

149. A guiding principle of Soviet tactics is expediency, and policy hinges upon concrete opportunities and constraints. Thus, "popular front" collaboration with pacifists, aid to "bourgeois" nationalists in emerging countries, or Summit meetings with capitalist statesmen are all tactics deemed appropriate at one time, and not at another. Support for rebellion, denunciation of warmongers, stimulated tensions over Berlin or over a reconnaissance aircraft are similarly all tactics sometimes deemed necessary or useful. Relaxation and pressure are neither mutually exclusive, nor necessarily partners; each is used when it seems appropriate both to the attainment of the immediate objective and to the broader aims of a given period. How they will be combined cannot be predicted in advance by the Soviet leaders themselves. Thus wide shifts of emphasis may occur within a range which excludes, on the one hand, the deliberate assumption of serious risks of general war, and on the other, abandonment of the concept of continuing struggle between two irreconcilable worlds.<sup>14</sup>

150. It is a premise of Marxism-Leninism, and of the peaceful coexistence strategy in particular, that significant changes in the world can be engendered by the actions of the masses of people. Consequently, propaganda in the broadest sense is a major weapon in peaceful competition. Special stress is placed on the tactics of influencing the peoples of the world through attempts to identify the USSR with ideals such as peace, disarmament, national liberation, social justice, and democracy—and to exploit all opportunities to charge the Western Powers with opposing the march of peoples toward these goals. Economic growth, scientific achievement, and broad cultural enrichment are all major themes on which the Soviets play, contrasting their attainments in these fields with alleged Western inferiorities, and giving credit for their successes to

<sup>14</sup> The Assistant Chief of Staff, Intelligence, USAF, does not concur in this sentence. See his footnotes to paragraphs 9 and 18 of the Summary.

the Communist social system. Rapid economic growth is seen as a powerful example which will induce many to favor acceptance of that system. And of course the fact of the USSR's growing military power is expected to intimidate some and reinforce the readiness of others to be persuaded that the USSR is the wave of the future.

#### PRESENT UNCERTAINTIES AFFECTING THE FURTHER DEVELOPMENT OF SOVIET POLICY

151. While we believe that the general Soviet outlook and strategy in foreign policy described above sets the broad limits for Soviet action for some time ahead, there are grounds for some uncertainty about Soviet tactical behavior, especially in the near term. Since the U-2 affair and the breakdown of the Paris summit meeting the Soviets have conducted themselves in a manner which makes renewal of the "detente" extremely difficult, though there are signs that they themselves underestimate this difficulty. It may be that a show of intransigence was thought necessary so long as the outgoing US Administration remained in office. But there have been some signs that the harder line of conduct may not be merely an interim phase until a new administration assumes office. The truculence of the USSR on the issues of Cuba, the Congo, and Algeria, the attack on the UN structure, and the negative attitude on resuming disarmament negotiations may point to a more prolonged period of toughness. On the whole, we think it more likely that the Soviet leadership has not yet made a decision and itself has reason to be uncertain about its next tactical moves.

152. The tactics of combined pressures and negotiations which Khrushchev has followed on the critical Berlin issue have probably been a disappointment. When he opened the Berlin question two years ago he almost certainly expected the Western Powers to make significant concessions. He said and probably believed that such concessions were owing to the USSR because of its increase in relative power. The failure of the Western Powers to recognize this must have been frustrating in

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the extreme. It may have called into question the whole policy of applying direct pressure at a point like Berlin where, however, vulnerable the Western position might be, the risks had to be counted as extremely high. The Soviet leaders may decide that more pressure must be applied and the risks accepted. If on the other hand they are unwilling to take such chances, they may ask themselves whether, in view of the political costs inevitably involved in failure, pressure tactics in areas of direct confrontation with the West are advisable at all. To admit that they are not would require the Soviet leaders to re-appraise the political usefulness of their gains in relative power.

153. If the pressure aspect of Soviet tactics carries risk, Khrushchev has learned that the accompanying effort at negotiation has its hazards also. To negotiate requires that a minimum of good will be attributed to the negotiating partner; in the Soviet case this conflicts with longstanding stereotypes about the "imperialists." Khrushchev went farther than any Soviet leader has ever gone in attributing good intentions to Western statesmen. His embarrassment was therefore the more acute when he felt obliged to declare, after the U-2 affair, that his confidence in the President had been misplaced. His defensive explanations showed that he himself recognized that he was vulnerable to doctrinaire criticism, and in fact the Chinese did exploit this vulnerability. It may be that the attempt to represent the "imperialist" opponent as bent on war and simultaneously as a worthy negotiating partner places too great a strain upon the propaganda and ideological agility of the Communists. Such contradictions tend to produce confusion in the dogmatic-minded Communist audience. The problems arising from "detente" over the last year may have given some of the Soviet leaders a nostalgia for Stalin's less complicated methods.

154. The Soviets are doubtless gratified over the great increase in their influence in the underdeveloped world during the last several years, but the situation there offers them certain problems too. They must be learning that many neutralist leaders are not easily

brought under effective influence, much less direct control; they are not only unpredictable but are tenacious in the pursuit of their own interests. Iraq, which seemed a promising target two years ago, is very much less so now. The current UN session has probably brought less immediate success than Khrushchev hoped for. Soviet economic aid programs seem to be subject to some resentment at home, and some Communists may well be skeptical of their eventual political results. Soviet willingness to support "bourgeois nationalists," even to acquiesce in their suppression of local Communist parties, and thereby to postpone revolutionary struggle, has been a main point of Chinese attacks on Soviet policy.

155. It is the critical dispute with China which must contribute most to the Soviets' possible uncertainty over their future course. It is precisely the whole general coexistence line of Soviet policy toward the non-Communist world which the Chinese have brought into contention. The harder Soviet line in recent months, although it might have been adopted anyway in response to events, was probably conceived in part as an attempt to propitiate the Chinese and also to reduce the impact of Chinese criticism in other Communist parties. In the course of dealing with the Chinese dispute, the Soviets might go further in the direction of militancy, and in the process might even assume greater risks than they would prefer. It is also possible that the Chinese will attempt to force the Soviet hand by initiating aggressive actions on their own. The threat to the unity of the Bloc and Communist movement is clearly so serious and must be regarded by the Soviets as so vital a matter that it is hard to see how they can project their future lines of policy very far until the results of current efforts to deal with the conflict become more clear.

156. Finally, it seems likely that the Soviets want to assess the significance of the US elections before they chart their further course. It is not that the success of either party in the US would have affected their appraisal of the long-term intentions of US policy. But they probably do think that their

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choice of tactical alternatives must await some further revelation of the character and likely moves of the new administration.

157. Altogether, therefore, we think that the Soviet leaders have sufficient reasons for uncertainty at present so that they are holding in abeyance for the time being any very firm decisions as to how they will proceed on the issues which confront them in foreign policy. We think that the chances are good that after a time they will reduce the present level of open hostility toward the West and attempt to create an atmosphere favoring a return to the path of negotiation. However, it cannot be excluded that they will be willing in the next six months or so to greatly sharpen tensions, perhaps over Berlin. If they refrain from this, and even if they return generally to a softer line, they will almost certainly continue to push vigorously their campaign to displace Western influence in the underdeveloped world. Relations with the Western Powers will depend to an increasing extent on contingencies which develop there. The nature of the Soviets' policies in these areas commits them to drawing sharp lines against the West; to some extent therefore the degree of hostility in their general line toward the West depends on unpredictable, even chance developments.

158. On the whole, despite the foregoing uncertainties and contradictions, we believe, as indicated above, that Soviet policy will move within a range which excludes, on the one hand, the deliberate assumption of serious risks of general war, and on the other, abandonment of active struggle against the West. However, some of these contradictions and in particular the issues raised by the Chinese challenge to Soviet policy and authority, are of a quite fundamental and long-term character. Maintaining authoritative leadership over the whole Communist movement, including China, is conceived by the Soviet leaders as a crucial interest. Therefore, in order to adjust to Chinese pressures, they may go farther in the direction of militancy and risk-taking than they otherwise would. If this should be the case, Soviet policy toward the non-Communist world might produce more continuous tensions and dangers, and greater

risks of war, than we have estimated to be likely. On the other hand, the Soviet leaders' appreciation of the calamities inherent in nuclear war appears to be so acute that, rather than risk going down this road with the Chinese, they may move as a matter of temporary expediency toward a greater degree of stabilization in their relations with the West than they would otherwise consider, though without altering their long-term aim of establishing communism throughout the world.<sup>15</sup>

#### OBJECTIVES AND AREAS OF ACTION FOR SOVIET POLICY

159. The Soviets themselves distinguish between the aims of their policy directed toward the Western Powers, the "imperialists," and that directed toward the uncommitted countries. Their broad objective vis-a-vis the West is to diminish its ability to prevent the further consolidation and expansion of Communist power. They recognize that Communist revolutionary action within the states of the Western Alliance has slight prospects and they expect the internal stability of these states to be maintained for some time. But they do intend to weaken and divide the alliance whenever possible so that it cannot effectively project its power. They will encourage popular front movements to oppose the governments on defense and disarmament policies, on West Germany's military role in NATO, and on colonial problems. One important result they hope to achieve by weakening the West in this fashion is to oblige it to recognize the finality of Communist power within the present frontiers of the Bloc. In addition, the Soviets hope to wage the struggle of peaceful coexistence increasingly in

<sup>15</sup> The Assistant Chief of Staff, Intelligence, USAF, agrees that the Chinese challenge to Soviet authority will, undoubtedly, have its effect on Soviet policy toward the non-Communist world; however, he believes that the relationship of Soviet military power vis-a-vis the US is the essential determinant. Further, as expressed in his footnote to paragraph 9, he believes that should the Soviets feel that they have achieved a clear military superiority, they are likely to adopt policies involving serious risks of general war.

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areas of the non-Communist world where the West will be on the defensive.

160. Therefore, in the Soviet view, the uncommitted countries are not only targets in themselves but provide a main battleground on which the West can be engaged, its growing weakness demonstrated, and its decline accelerated. Asia, Africa, and Latin America, the Soviets believe, are caught up in a quickening process of revolutionary change of which the West, by reason of its colonial past, is the natural enemy, and which it is powerless to arrest. Posing as the disinterested champions of anti-imperialism, the Soviets expect to be able to stimulate and manipulate the movements for "national liberation" and to guide them ultimately toward acceptance of Communist control. They probably recognize that conditions in these countries vary widely and that in many the attainment of actual Communist power is remote. But because they regard such an outcome as inevitable in any case, they are prepared to play a deliberate game and to employ a variety of tactics.

#### Germany and Berlin

161. The issues arising from the division of Germany remain, as they have for 15 years, the most critical in the whole confrontation between East and West. The Soviets wish to bolster beyond challenge the internal stability of their East German satellite regime, always the potential weak link in the East European system, where a breakdown of Communist power could place in hazard all the Communist regimes under Soviet hegemony in that area. The concurrent Soviet offensive aim is to limit the West German contribution to the strength of the NATO Alliance and ultimately to separate the Federal Republic from its Western partners. Both of these objectives have inspired the two-year old Soviet drive to effect a withdrawal of the Western Powers from Berlin. Khrushchev believed that if he was successful he would greatly strengthen the East German regime for which West Berlin has been a source of danger and enfeeblement, and would at the same time deliver a body blow to West Germany's confidence and to its relations with NATO.

162. The Soviets attempt on Berlin since November, 1958 has proceeded on the principle that pressure based largely on threatening agitation rather than overt acts against the Western presence in Berlin could persuade the Western Powers to negotiate their own withdrawal from this exposed position. Failure of these tactics despite the setting of several ultimatum-like deadlines must be viewed by Khrushchev as costly to his personal prestige and it may have given rise to recriminations among the Soviet leaders. He is probably all but convinced that stronger and more direct pressures would not lead to war and would compel the West to consent to some significant change in the status of the city. But the stakes are very high and, in accordance with the general line of his coexistence policy, Khrushchev would still vastly prefer a negotiated settlement. He has indicated that he looks forward to another attempt to handle the subject at the Summit level.

163. If a Summit is arranged or some other forum of negotiation is agreed to, the Soviet minimum position will probably be some change in the status of West Berlin as a step toward an eventual "free city" arrangement. Immediate measures such as a Western troop reduction, limitation of Federal Republic activities in West Berlin, and some form of GDR participation in controls over West Berlin and its access would be demanded in order to document the West's commitment to ultimately change the status of the city. If this minimum is not met, we believe that the Soviets will feel that they are obliged at last to move unilaterally. We cannot exclude that they would do so in a form to pose a direct challenge to the Western presence in Berlin. We think it more likely, however, that they would first summon a conference on a "peace treaty" with East Germany, making every possible effort to get participation by non-Bloc states. East Germany would then be permitted sooner or later to employ its newly-won "complete sovereignty" to control access and to take measures to constrict and erode the Western presence in Berlin. Such measures would probably be gradually applied and would leave open the possibility of negotiations even at this stage, though pre-

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sumably on terms which would be still more difficult for the West to accept.

164. It is possible, however, that the Soviets will decide instead that the risks of proceeding to new pressures on Berlin are too great. In this case, they might decide to give up their attempt to expel the West under the guise of a "free city" in favor of adopting a new approach. This might take the form of offering to exchange some reasonable guarantee of the freedom of West Berlin and the Western presence there for some form of Western recognition of the East German regime. An all-German treaty providing for the existence of two German states and probably providing also for limitation on the armament of both could be the vehicle for such a bargain. It need not go so far as to attempt to revive the neutralization schemes which have been discussed in the past and which the Soviets would be unwilling to apply to East Germany in genuine form in any case. Another new approach, though of a more limited kind, would be to offer an interim agreement on Berlin which would stipulate a severance of the city's juridical and political ties with West Germany in return for postponing for a set period the transfer of controls over Allied access. In any case, we believe that the Soviets may attempt at some point to devise a formula which would enable them to escape the dangerous impasse they have created over Berlin, and at the same time contribute to their major goal of stabilizing Communist control in East Germany, and limiting West Germany's ability to challenge that control.

#### Disarmament

165. In the last few months, as the Soviets' insistence that disarmament was the main issue on the international stage has mounted, their willingness to engage in serious negotiations has receded. The latter was of course a function of their turning to a hard line, but there is not much doubt that the primary Soviet objectives in agitating the disarmament issue are political and propagandistic. They see in this theme a means of appealing to the "masses" in the non-Communist world. They expect the issues raised

to provide a focus for Communist-led popular agitation against Western governments and to force divisions among Western governments. In the underdeveloped world, where the intricacies of negotiated disarmament are little understood, they hope to discredit the US by labeling it as being "against" disarmament, and to identify themselves with hopes for peace and a promise to transfer arms resources into development needs.

166. We do not believe that the Soviets have an urgent interest or a serious belief in the possibility of a comprehensive agreement for general disarmament. Assuming as they do a state of continuous struggle in the world, they recognize that general disarmament is inseparable from political settlements. While they would doubtless like to be in a position to reduce the burden of the arms race, we believe that the high growth rate of their economy permits them to bear this burden without excessive difficulty, so that internal economic considerations are not compelling. They probably now regard their great military power as one of the essential ingredients in a total power position intended to support the spread of communism. They probably believe that Western inspection requirements for any comprehensive scheme would be too sweeping for them to accept.

167. The Soviets probably do have an interest in some limited agreements: on nuclear testing to check the spread of these weapons, on zonal demilitarization to halt the installation of strategic missiles around the Bloc periphery, and perhaps on measures to avert the possibility of accidental war. Even on these they will remain hard-nosed on inspection features, although a point might be reached on partial undertakings of this kind where they would think the advantages to them of reaching agreement outweighed the disadvantages. If they find the political context favorable after the next several months they may drop their present obstructionist attitude and move to forward negotiations on some partial agreements. They would continue in any case to agitate for "general and complete" disarmament for the sake of the political mileage in this theme.

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Features of Soviet Action Toward  
Underdeveloped Areas

168. Soviet policy is almost certain to give primary emphasis to the underdeveloped countries in the years ahead. The Soviet leaders are convinced that by harnessing anti-Western and anticolonial sentiment they can at a minimum accomplish the progressive removal of Western influence where it still remains in such areas. They believe that a worldwide alignment of these countries with the Communist Bloc can contribute vitally to a final weakening of the "imperialist camp." Beyond this, they consider that the revolutionary situation which prevails in many of these countries will compel the "national bourgeois" regimes to give way to "progressive" elements and ultimately to Communist control.

169. At present, the Soviet leaders apparently regard this process as likely to be long-run and are prepared to utilize it opportunistically and with caution. Their calculations spring from doctrinaire Marxist-Leninist preconceptions, however, and they are almost certainly prone to underestimate the varieties of political evolution in these countries and the force of national interest and particularism. If disappointments ensue and are set against the political risks and economic costs of the present policy, it is not certain that the Soviet leadership would not alter it in some manner or degree. The Chinese Communists, in their criticism of the Soviets, already advocate the more traditional policy of avoiding close involvement with bourgeois allies and instead giving direct support to Communist revolutionary forces.

170. For the present, however, the Soviets seem prepared to pursue quite varied tactics. For example, in the case of India they recognize that opportunities for successful revolutionary action are remote; they probably intend to continue for some time their policy of extending economic aid and of cultivating the Indian Government on the diplomatic level. They probably believe that a leftward movement of political forces in India is inevitable in time, and that when it comes the high respect won for the USSR by its

present policies toward India will stand the Indian Communists in good stead. In a quite different kind of situation, that in Algeria, they employ different tactics. There, apparently because they have given up hope of using de Gaulle to split the Western Alliance and because they fear being outbid by the Chinese, they have recently moved to increase their support to the FLN. They see Algeria as a case of "revolutionary war for national liberation" which gives them special opportunities. They hope that the aid they give may enable them to capture the Algerian movement, or at a minimum, will win them credit in all the colonies and ex-colonial countries of Asia and Africa. Also they see in Algeria an issue which can be used to sharpen conflicts within France and between France and her NATO allies. Now that the Soviets have taken the overt step of giving *de facto* recognition to the Algerian Provisional Government, they will probably increase material assistance to it, perhaps including weapons and military advice. On the other hand, they must still take into account the fact that close alignment with the FLN could greatly complicate the arranging of any East-West negotiations.

171. Should Communist regimes be established in areas not contiguous to the Bloc it would introduce new complications into Soviet policies. Problems of ideological purity and party discipline already found within the present Bloc would multiply. The defense of such regimes would be burdensome and would increase risks of military involvement with the Western Powers or other states. Therefore, at present in most instances the Soviets are probably well satisfied to achieve no more than regimes which are strongly Bloc-oriented, like those in Cuba and Guinea. Soviet ambitions would tend to increase, however, when and if the Bloc achieved a stronger and more flexible military position vis-a-vis the West than it has at present.

172. As the USSR's interest and activities in the underdeveloped areas have grown, Khrushchev has tended to pass out freely promises of "support," by implication military support, to anti-Western regimes and move-

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ments. These vague and guarded promises are an attempt to use the general Soviet strategic strength to deter Western political and military intervention in such areas, and also to build regard for Soviet power cheaply. The USSR does not now have military capabilities suited to armed intervention in the distant parts of Asia, Africa, and Latin America. In such areas, the Soviets almost certainly would not accept risks of serious involvement with Western forces. The time may come, however, when the Soviets will have the capabilities and will be more willing to accept such risks. This would be especially the case if there were pro-Soviet or Communist regimes which were willing to provide them with bases of operations.

#### Africa

173. The Soviets have recognized the key importance of Africa from a strategic point of view, and have for a number of years foreseen and prepared for the opportunities emerging there. The Congo case showed their alertness and flexibility of response, and suggested their pattern of operations. The weakness or absence of Communist parties and leftist mass movements in Africa is a limitation, and Soviet action must be based almost entirely on dealings with governments. Inexperienced and untutored in Soviet ways as most of the new African governments are, however, they offer vulnerable targets to Communist infiltration methods. Most of them are likely to be authoritarian or one-party states, a fact which facilitates capture by infiltration. This may be the primary Soviet tactic in much of Africa in preference to the more conventional method of building mass Communist parties with a view to eventually challenging the governments and seizing power. The Soviets will probably try hard therefore to build cadres of pro-Communist intellectuals and government officials. Such people may not always be under strict Communist discipline, and the Soviets will also have to reckon with the vagaries and impulses of nationalist and genuinely neutralist-minded leaders whom they cannot control.

174. The Soviets probably themselves recognize that they have both strengths and weaknesses in the struggle for Africa. Their action will probably not follow any consistent scheme, but will be opportunistic and respond to situations as they arise. Their first aim is to establish a presence everywhere they can in Africa so as to provide a pole of attraction for anti-Western political forces. For the next several years they can be expected to extend their economic aid programs on the pattern of those they have now in Guinea, Ghana, and Ethiopia. They will be satisfied for the present if they can gradually add more positions of influence of the kind they already enjoy in Guinea.

#### The Far East

175. The Soviets' outlook on the Far East is probably conditioned at present by two main groups of factors, one favorable, the other complicating. On the one hand, they are probably encouraged by the mass political action which developed this year against the pro-US governments in Japan and South Korea, by the continued strength of the Communists in Indonesia, where governmental ineptitude and stagnation offer good prospects for the future, and by the growing strength of Communist guerrilla action in South Vietnam and Laos. They trace these favorable developments to the effectiveness of their peaceful coexistence policy. On the other hand, since this is an area of primary Chinese interest, the Soviet dispute with China, especially as it bears largely on methods to be followed, must cloud the Far East picture with a good deal of uncertainty.

176. Probably the Chinese desire to take more forceful action against the Chinese Nationalists is one of the particular issues in contention. The Soviets would be more than willing to see the Chinese win Taiwan and liquidate the Nationalist regime, but they are almost certainly unwilling to back the Chinese in taking a serious risk of war with the US. Nevertheless, one of the means of compromising the Sino-Soviet dispute may be Soviet agreement to favor more vigorous action against the Offshore Islands if they thought

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they saw some way to limit the chances of US retaliation against the Chinese mainland. Another might be Soviet agreement to stepped up subversive action in Laos or South Vietnam, although the Soviets would probably continue to oppose over use of Chinese military forces as involving unnecessary risks and running counter to the peaceful coexistence strategy. Over the next several years the Soviet leaders will probably regard Japan as a main theater of interest—because US military power and political influence provide the target there, because Japanese leftism shows some promise of eventually subverting this most economically advanced country in Asia, and because the Soviets will wish to prevent the Chinese from displacing them as the guiding patron of Japanese communism.

#### The Middle East

177. The Middle East will be of particular interest as a place to watch the further evolution of Soviet policy toward underdeveloped countries. It is the area where the Soviet venture in military-economic aid and cooperation with nationalist leaders first appeared in 1955. Despite the fact that this policy has been longest in operation there, its results have been at least ambiguous. Nasser continues to accept Soviet benefits but has preserved his independence; Communists are still hunted and jailed in the UAR and no genuinely pro-Soviet popular movement has developed. In Iraq, the Communists enjoyed a promising mushroom growth in the revolutionary confusion following the fall of Nuri Said in 1958, but more recently their prospects for seizing power have declined. Moreover, Qassim himself has proved less malleable to Soviet pressure than he first seemed. Both Iraq and the UAR are places where the peaceful coexistence strategy may have fallen short of Soviet expectations, and where its effectiveness may be questioned in some Communist circles. We think it unlikely, however, that the Soviets will find it desirable or feasible to substantially alter their policies toward the Arab countries at any early date.

178. Iran is likely to remain under heavy Soviet pressures, particularly in any phase like the present when Soviet policy is on a

hard-line course and has less interest in cultivating "detente" with the West. The chief Soviet effort for the present is likely to be on inducing a reorientation of the Shah's regime toward neutralism, or at least a repudiation of the Iranian alliance with the US. If the time were deemed to be ripe, the Soviets would probably encourage various dissident elements to undertake a revolt, to the support of which the Soviets would then direct their considerable Communist assets in the country. They would certainly attempt to deter Western military intervention, probably by quite direct threats; if they did not succeed, there would be a good chance that they would occupy part of Northern Iran under their claimed treaty rights.

#### Latin America

179. The Soviets are probably much encouraged by recent developments in Latin America, and they probably now intend to treat it as a major theater of action rather than as the secondary one it used to be for them. Thanks to the windfall of Castroism, which they probably see as partly attributable to their peaceful coexistence strategy, they now have a symbol and a movement for focussing agitation. Cuba also provides a better base of operations for subversion and propaganda throughout Latin America than they have ever had. The Soviets will probably avoid for some time seeking an open Communist seizure of power in Cuba or elsewhere. A strongly anti-American and pro-Soviet but not avowedly Communist regime like Castro's serves their purposes far better; it gives a native color to Communist agitation and limits the risk of a hemisphere-wide reaction against outside Communist intervention. At the present stage, the main Soviet aim will be to help the Castroist movement and its imitators throughout Latin America to win a mass following, primarily in order to pressure governments toward anti-US stands. The Soviet leaders realize that, because of the history of the inter-American system and past US pre-eminence in diplomatic, economic, and military affairs, setbacks for the US in Latin America, will be doubly injurious to the US world position.

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The United Nations.

180. The recent Soviet proposal to reorganize the UN Secretariat and Security Council was not a passing maneuver connected only with the present hard-line phase in Soviet policy. The Soviet leaders have apparently concluded from the UN's operations in recent years, more especially in the Congo this summer, that it can be a serious obstacle to their plans. This belief rests not only on the proposition that the Secretariat is Western-dominated, but more fundamentally on the fact that the UN tends to support international law and order where they wish disorder, peaceful change where they wish to see revolutionary change, and peace where they wish to have the option of violence. Thus insofar as the UN helps to create a stable world environment of balanced power the UN runs counter to their fundamental aim of achieving a dominating position for themselves.

181. The Soviets know that they cannot hope to capture the UN through the votes of member states in the foreseeable future, even though they believe that their influence in the UN has increased in recent years. Their reorganization proposals are therefore intended to render it incapable of effective action, and they will persist in advocating them. They calculate that, even if their proposals are not adopted, there will at least be some inhibiting effect on the future operations of the Secretariat. They may also attempt to disrupt its work by constantly raising administrative, personnel, and budget issues. We do not believe, however, that the Soviets will be tempted to desert the UN entirely even if they suffer reverses there. It is well suited to their "peaceful coexistence" struggle; it provides an arena in which to deploy some of the principal weapons of that struggle, worldwide propaganda and the winning of diplomatic influence.

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ANNEX A

SOVIET MILITARY FORCES AND CAPABILITIES

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## MAIN TRENDS IN SOVIET CAPABILITIES AND POLICIES, 1960-1965

### ANNEX A SOVIET MILITARY FORCES AND CAPABILITIES

1. The general structure of the Soviet armed forces is undergoing the most important changes since the end of World War II. These result primarily from the accelerated adaptation of these forces to the new military technology, principally nuclear weapons and missiles. They result also from the acceptance of the new strategic situation these weapons have produced, a situation in which both the US and USSR can deal vastly destructive nuclear blows at the outset of a war. The Soviets recognize a primary requirement for long-range striking forces and defense against the enemy's similar forces. At the same time, they will maintain and improve their other military capabilities, although they consider that they no longer need standing armies as massive as those maintained in the World War II tradition. Moreover, this manpower is badly needed in the economy, and the smaller modernized standing forces will provide a wide range of combat potential, backed up by a strong mobilization capacity. By pruning away unnecessary and obsolescent elements and by developing the command structure and communications appropriate to modernized forces, the Soviets will attempt to keep pace with the technological revolution in weaponry. They expect thereby to have military power suited to the current strategic situation and capable of giving the strongest support to their world policy.

2. The Soviets will continue their intensive efforts in weapons research and development with the object of acquiring new systems which, through political and military impact, will shift the world relation of forces to their advantage. Their effort will be concentrated

particularly on those fields which hold promise of breaking the nuclear stalemate. In making their decisions, Soviet planners will have to consider such problems as rapid technological change, long lead times, rapid obsolescence, and increasing costs. Despite the rapid growth in Soviet economic resources, there will continue to be competition among military requirements of different types, and between military requirements and the demands of highly important nonmilitary programs. In deciding whether to produce complex new weapon systems in quantity, the USSR will probably apply increasingly severe tests as to whether these would add greatly to current capabilities, and as to whether costs were justified by likely periods of use before obsolescence.

#### CHANGES IN THE SIZE AND COMPOSITION OF THE SOVIET ARMED FORCES

3. In a major military policy statement on 14 January 1960, Khrushchev described in broad outline a program for a large reduction in manpower and alterations in the structure of the Soviet armed forces. The motivations for the proposed program were mixed and reflected political and economic as well as military considerations. On the economic side, the desire to free badly needed manpower and resources for economic development was a major consideration. Politically, there was a desire to support a pose of peacefulness and to claim the initiative in the universally applauded cause of disarmament. On the military-strategic side, chief considerations were the Soviet confidence in their attainments in guided missiles and nuclear weapons, and

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their belief that developments in these and other fields would permit establishment of a smaller, but more effective, military force without sacrifice of military potential.

4. Appropriate reductions in obsolescent air, naval, and other weapons would have occurred over several years in any case as a result of the buildup of offensive and defensive missile capabilities. But under the impetus of the political and economic motivations, and Khrushchev's personal initiative in pressing them, a decision was evidently taken to anticipate these changes by accelerating and compressing the period of transition, and defining a manpower ceiling at approximately two-thirds of the existing personnel strength level. Part of the announced reduction reflects a revised view of the requirement for the level of the standing force, especially in the theater field forces. Some of the reduction would occur as new improved weapons replace others, especially as missile systems replace bomber and fighter aircraft, antiaircraft guns, and conventionally gunned ships. Also, an increased portion of service support to the armed forces could probably be provided by civilians.

5. The creation of a new rocket command, announced in May 1960, reflects the rising importance of missile systems. The present Commander-in-Chief of Rocket Troops is Marshal of the Soviet Union Moskalenko, who succeeded to this position in October following the death of Chief Marshal of Artillery Nedelin. Khrushchev declared in his January military policy address that rocket forces are now a main component of the armed forces, while "the air forces and the navy have lost their previous importance." In the future, he noted, the surface naval force "will no longer play its former role," and "almost the whole of the air forces is being replaced by missiles." Marshal Biriuzov, Commander-in-Chief of the Air Defense Forces, has since declared that "the main striking force" of Soviet air defense consists of air-to-air, and especially surface-to-air, missiles. As a consequence of this shift to missiles, he noted, substantial reductions in personnel are made feasible.

6. In the Soviet view, however, balanced and varied military forces remain necessary, despite the new importance of missiles in the military establishment. Defense Minister Malinovsky, in elaborating on Khrushchev's military policy statement last January, reaffirmed the Soviet belief that "since successful conduct of military actions in a modern war is possible only on the basis of combining the efforts of all types of the armed forces, we are retaining at a definite strength and in relevant, sound proportions all types of our armed forces . . .". While the precise nature of this balance in the evolving new force structure is not revealed, the weapons development and military production trends of the last few years and the indications of the weapons systems being replaced by missiles provide guidance in estimating the general pattern of the force structure after reductions are completed.

7. The program announced in January 1960 projected a cut of 1.2 million men in the Soviet armed forces, which then numbered about 3,625,000 men. This cut was to be completed by the end of 1961.<sup>14</sup> There are indications from various sources that substantial reductions have already occurred; however, we believe that the largest cuts are yet to be made. As Marshal Bagramian has privately stated, time is required to arrange for housing, vocational training, and employment for those released—especially for the officers.

8. Thus far, most of our evidence on reorganization and reductions relates to the air forces; the evidence on ground and naval forces is less definitive and does not establish the extent to which the program has proceeded in these components. The possibility always exists of a stretchout or modification in the announced Soviet program, perhaps because of administrative difficulties in carrying it out or because of increased interna-

<sup>14</sup>Table 1 in Annex B provides the personnel strengths of the various elements of the Soviet armed forces for 1 January 1960, at the start of the current reductions, and for 1 July 1962. The figures given for the latter date reflect what we consider will be the likely structure of Soviet forces when the reductions are completed.

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tional tensions. However, following the U-2 incident in May 1960 Khrushchev stated that the plans for reduction had not changed, and there is good evidence of continuation of reductions and reorganization since that time. Kozlov reaffirmed the plan for reductions as recently as November 1960. More important, the basic economic, political, and military considerations which led the Soviet leaders to decide on a major reduction still prevail. We therefore believe that, barring a domestic or international crisis of serious proportions, the Soviets will substantially carry out their announced program for a reduction in the personnel strength of the Soviet armed forces to approximately two and one-half million men.

9. While we have fair confidence in the foregoing estimate of overall Soviet personnel strengths and of the general scale and timing of force reductions, the situation is different when we attempt to construct a more detailed Soviet order of battle, either for the present day or for the future. The time is one of rapid change in the Soviet armed forces. Military units are being deactivated and transferred at an unusual pace, which will probably be accelerated during 1961. Clearly the normal criteria, by which in a period of relative stability we accept or reject the existence of various units, will not wholly apply at this juncture. Accordingly we have had to make estimates of Soviet order of battle, involving considerable reductions, on less specific evidence than we would normally require. The estimates in various following paragraphs and in Annex B must be considered as tentative to a greater degree than usual.

#### High Command

10. The creation of the new rocket command is one of several important adjustments which have occurred in the structure of the Soviet Ministry of Defense during recent years as the USSR has sought to keep this structure abreast of contemporary requirements. The rocket command has been designated a main component of the Soviet armed forces. This change follows by about five years the elevation of the Soviet air de-

fense component to similar status, and increases to five the number of main directorates responsible for administering force components: ground, naval, air, air defense, and rocket. These main directorates are concerned with the organization, doctrine, manning, training, administration, and logistic requirements of their respective components. The commanders-in-chief of ground and naval forces are First Deputy Ministers of Defense; the others are Deputy Ministers. We foresee no basic change in the highly centralized top control exercised over all administrative and operational activity in the Soviet military establishment by the Minister of Defense and his single, unified general staff.

11. The flow of operational orders from the Minister of Defense to major combat elements does not conform to a rigid pattern. In the case of field commands such as military districts and groups of forces, which combine several types of forces, the operational chain of command goes directly from the Defense Minister to field commanders and not through the heads of main components. This is apparently also the case with certain specialized combat elements, including Long Range Aviation and probably the airborne forces. On the other hand, the channels for operational control of naval fleets and air defense districts are believed to include the commanders-in-chief of the respective main components. Similarly, according to Soviet statements, the Commander-in-Chief of Rocket Troops is in the direct chain of operational command, at least with respect to long-range ballistic missiles.

#### FORCES FOR LONG-RANGE ATTACK<sup>10</sup>

12. As a result of the policies of recent years, Soviet long-range attack capabilities are now undergoing a major transition. Current capabilities rest primarily on bombers, all capable of delivering high-yield nuclear weapons. The bomber force is now supplemented by ground-launched ballistic missiles and by

<sup>10</sup> For a more complete discussion of this subject, see NIE 11-8-60, "Soviet Long Range Attack Capabilities Through Mid-1965," dated 1 August 1960. TOP SECRET

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missile-launching submarines. We believe that within the next few years ballistic missiles will constitute the main element of the Soviet long-range striking forces.

13. The Soviets have strong incentives to build a substantial ICBM force since the ICBM would provide them for the first time with a means of attack on the US which would have the advantage of maximum surprise consistent with heavy weight of attack. What we can learn of Soviet strategic ideas suggests that the ICBM is thought of primarily in terms of deterrence, and of pre-emptive or retaliatory attack should deterrence fail, rather than primarily in terms of the deliberate initiation of general war. These terms, however, provide no quantitative definition of Soviet ICBM force goals.<sup>15</sup>

14. The Soviets would expect their growing ICBM force to have great value in terms of political exploitation and deterrence. The precise military capabilities of the Soviet ICBM force, however, could vary considerably depending upon the performance characteristics of the weapon system and the circumstances under which it was employed. Moreover, there are operational factors (such as Soviet problems of achieving simultaneity of salvo and the mobility of US retaliatory forces) which would tend to reduce Soviet confidence in the ability of any given number of ICBMs to destroy or neutralize US retalia-

"The Assistant Chief of Staff, Intelligence, USAF, does not concur in this paragraph. He believes that Soviet military doctrine, history, and behavior warrant the judgment that the USSR will strive to achieve a capability for decision which has as its basis the exploitation or application of military force and he does not believe that the Soviets would be content with conceptual levels of deterrence or marginal capabilities for pre-emptive attack. Thus, he believes that the Soviet rulers would endeavor to achieve a military superiority over the US and would direct Soviet planners to assess those military requirements which would enable them either to force their will on the US through threat of destruction or to launch such a devastating attack that the US as a world power would cease to exist.

tory forces through attack on fixed installations such as bomber bases.<sup>17</sup>

#### The Soviet ICBM Program

15. The Soviet ICBM development program has been conducted in a deliberate and orderly fashion, rather than on a "crash" basis. Since the beginning of the test-firing program in August 1957, there have been nearly 30 generally successful ICBM firings to ranges of 3,500 n.m. or more. Fifteen of these firings occurred in 1959, and the firing rate in the last half of that year was about two per month. The rate of firings has been lower thus far in 1960, averaging less than one per month. Of the seven generally successful tests this year, four have been to the Johnston Island area in the Pacific, about 6,500 n.m. from the rangehead at Tyura Tam.

16. *IOC Date.* Evidence derived from flight tests is considered adequate to gauge the general progress of the program, but we cannot state with certainty the precise timing of the USSR's initial operational capability (IOC).

In view of the time elapsed since the start of test ICBM firings, the number of firings, their rate, and their apparently successful results, as well as the wealth of Soviet experience in shorter range missiles, the Soviets probably were in a position by the end of 1959 to consider their ICBM system satisfactory for initial deployment.

17. The establishment of an operational ICBM capability requires not only a certain confidence in the weapon system, but the

"The Assistant Chief of Staff for Intelligence, Department of the Army, believes that operational considerations which extend beyond the computations of the number of ICBMs required to inflict severe damage on certain static targets would prohibit Soviet military planners from accepting with confidence any calculation that a certain number of ICBMs would be sufficient, in conjunction with the operations of other Soviet forces, to reduce the weight of a US retaliatory attack to an acceptable level.

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availability of missiles, trained personnel, and launching and ground support facilities. We believe that Soviet series production of ICBMs began early in 1959, and hence that the delivery of series produced missiles to operational units could have been underway during the latter part of that year.<sup>18</sup>

In a recent intensive review of all evidence on the question of operational ballistic missile launch sites, we have identified three areas in the USSR (other than known test ranges) which we evaluate as possible ICBM launch areas.<sup>19</sup> We are still unable to identify positively any operational ICBM launching facilities, although there are large regions of the USSR where such facilities could have been established without detection. In an ICBM program taken as a whole, launcher construction and activation are critical factors requiring long lead time.

18. In light of all the foregoing considerations, we estimate that, as of 1 January 1960, the USSR had achieved an IOC with a few—say 10—series produced ICBMs in the hands of one or more trained units at existing launching facilities.<sup>20 21</sup> The Soviet ICBM de-

<sup>18</sup> The Assistant Chief of Staff for Intelligence, Department of the Army, believes that there is no evidence to indicate that ICBMs have been produced in the Soviet Union in numbers larger than are required by the continuing R&D activities.

<sup>19</sup> The Assistant Chief of Staff, Intelligence, USAF, has already identified what he believes to be over 20 ICBM and MRBM launch areas, each of which contains an undetermined number of launchers under construction or in place.

<sup>20</sup> The Assistant Chief of Staff for Intelligence, Department of the Army, believes that as of 1 January 1960, the Soviets had only an emergency capability to launch a few ICBMs against North America. These ICBMs probably would have had to have been launched from R&D facilities. However, he believes that, for planning purposes, it is prudent to assume that the IOC had occurred by 1 January 1960.

<sup>21</sup> The Assistant Chief of Naval Operations (Intelligence), Department of the Navy, believes that there is insufficient information to judge that, as of 1 January 1960, the conditions for IOC had been met.

ployment pattern could employ rail mobile units, hard or soft fixed installations, or some combination of these methods. In any case, it would be heavily dependent on the Soviet rail net and ICBM sites are not likely to be found at locations remote from rail support.

19. *Characteristics and performance.* As a result of its research and development program, the USSR has developed an ICBM system which we believe can deliver a high-yield nuclear payload with reasonable accuracy and reliability from virtually any point in the USSR to virtually any point in the US.

The Soviets have tested two weight classes of ICBM nosecones. A very heavy nosecone, weighing approximately 14,000 pounds, was employed in ICBMs tested through November 1959 to ranges of 3,500–4,500 n.m. The other type, weighing 7,500–9,000 pounds, was tested in the 6,500 n.m. shots to the Pacific area in January and July 1960. We believe that both of these nosecones incorporate warheads of about 6,000 pounds. The lighter nosecone, an ablative high-speed re-entry type, probably could have been available for operational use in about mid-1960. Any operational deployment prior to that time would probably have involved an ICBM with maximum range of about 4,500 n.m. Missiles with the heavier nosecones could be retrofitted with the lighter nosecones after deployment.

20. Our present view of the main characteristics of the Soviet ICBM, and of its performance under operational conditions, is summarized below.<sup>22</sup> The accuracies estimated in the following table are based on data which are far from complete. Considerable reliance has been placed on general state of the art and US analogy, together with estimated Soviet capabilities in related components such as gyroscopes and accelerometers. The element of uncertainty in our estimate of CEP's for fu-

<sup>22</sup> For a more detailed statement, see NIE 11-5-60, "Soviet Capabilities in Guided Missiles and Space Vehicles," dated 3 May 1960. TOP SECRET

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ture years is very great. Similarly, there is so little data available to us on factors which would affect Soviet ICBM reliability and in-commission rates that figures can be provided as working assumptions only.

*Range/Payload*

6,500 n.m./6,000 lb.

*Configuration*

High-speed ablative nosecone.

1½ staged (Atlas type) or parallel staged vehicle, with former somewhat more likely.

Gross takeoff weight on the order of 500,000 lbs. thrust on the order of 750,000 lbs.

Nonstorable liquid fuel.

*Guidance*

1960: probably radio-inertial.

1961-1962: all-inertial probably available, but retrofit of existing missiles unlikely.

*Operational Accuracy (CEP)*

With radio-inertial guidance:

mid-1960, about 2½-3 n.m.

by 1963, less than 2 n.m.

With all-inertial guidance:

mid-1960, about 4½ n.m. if available.

by 1963, about 2 n.m.

1965-1970, about 1 n.m. (tentative).

*Other Operational Factors (working assumptions)*

In-commission rate: "

mid-1960, 60-80 percent.

mid-1961, 70-85 percent.

mid-1963, 85-90 percent.

Reliability: "

mid-1960, 50-60 percent.

mid-1961, 55-65 percent.

mid-1963, 65-75 percent.

21. *Production and Deployment.* We consider the IOC date as marking the beginning of a planned Soviet buildup in operational

"In-commission rate is the percentage of ICBMs in operational inventory considered "good enough to try to launch" at any given time. Reliability refers to the percentage of ICBMs in commission and on launchers which could successfully go through countdown, leave their launchers at scheduled times or not later than 15-30 minutes thereafter and detonate in the vicinity of assigned targets. In both cases, the low side of the range of figures is a percentage which might be maintained for an indefinite period. The high side of the range might be achieved if the Soviets prepared their ICBM force for an attack at a designated time known well in advance.

ICBM capabilities. Since there is insufficient direct evidence to establish the scale and pace of the present Soviet ICBM production and deployment program, we have based our estimate in part on various indirect forms of evidence and on argument and analysis deduced from more general considerations.<sup>24</sup> These latter include such things as the strategic ideas which appear to govern Soviet military policy, our appreciation of the strategic capabilities which Soviet military planners might expect to derive from given numbers of ICBMs, our general knowledge of Soviet military production practices, and our sense of the tempo at which the present program is being conducted.

22. We have also examined the tasks and problems involved in the production and deployment of ICBMs through the elaboration of three illustrative Soviet programs. They represent the range of judgments, based on the direct and indirect evidence available to us, regarding the scale and tempo of Soviet effort. These illustrative programs are summarized below in terms of the numbers of operational ICBM launchers<sup>25</sup> which each would provide:

	Mid-1960	Mid-1961	Mid-1962	Mid-1963
Program "A" "	30	150	270	400
Program "B" "	35	200	450	700
Program "C" "	a few	50	125	200

"The Assistant Chief of Staff for Intelligence, Department of the Army, believes that the direct evidence upon which to base an estimate of present Soviet ICBM strength is of major significance. He is aware that much of this evidence constitutes negative indications and, therefore, believes that its rejection as insufficient leads to unrealistic overestimation.

"The number of launchers is a good measure of the amount of activity involved in a given ICBM program, since it includes all of the facilities, in addition to the missiles themselves, which are necessary to the operational weapon system. Included are ground guidance facilities; test, checkout, and maintenance equipment; fueling and storage facilities; and housing and general purpose equipment.

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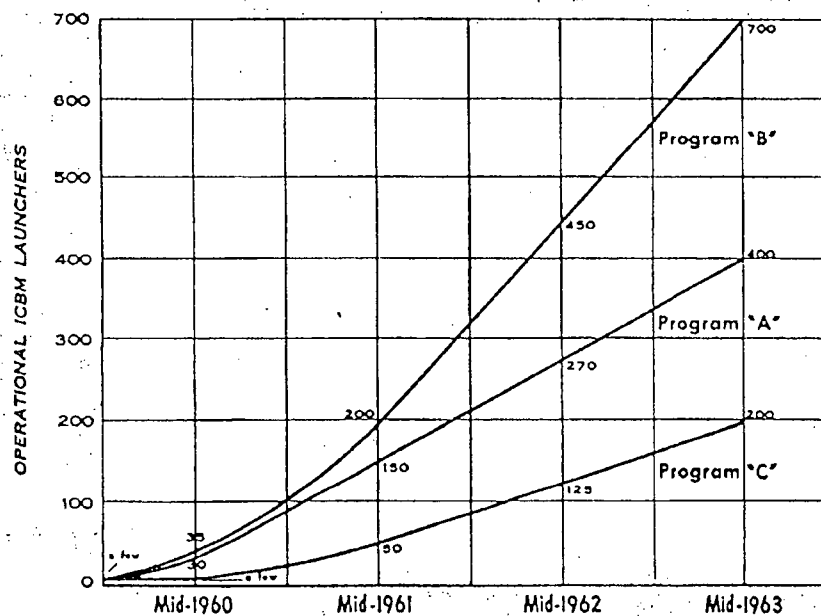
"For the views of the Assistant Chief of Staff for Intelligence, Department of the Army, on these programs, see his footnote to paragraph 23d.

"The Assistant Chief of Naval Operations (Intelligence), Department of the Navy, has expressed in another National Intelligence Estimate his minority view of the amount of fissionable material that will probably be available to the USSR in 1963. He consequently believes that program "B," in combination with the other ballistic missile programs presented in this paper as well as with all other Soviet nuclear weapons requirements, would not be feasible or reasonable and would not be pursued by the Soviets.

"The Director for Intelligence, Joint Staff, considers illustrative program "C" to be out of consonance with the available evidence, with Soviet military doctrine, and with past Soviet weapon system practices. He therefore considers illustrative program "C" invalid and unwarranted for inclusion in this document. He points out that, in his opinion:

Paragraph 23 postulates a "strong deterrent" as a backdrop, presumably, for an aggressive Soviet foreign policy. Yet, in context, this "strong deterrent" of Program "C" is in reality a minimal—almost a token—number of ICBMs.

Program "C" imputes to the Soviets the judgment that this "small force of ICBMs" would bring about a supposedly new and "very intoxicating" idea of the world power balance—"... a posture strong enough to deter the US from initiating general war in all situations short of a direct threat to its national existences." The Director for Intelligence, Joint Staff, considers that the "deterrence" of the US from initiating general war in all situations short of a direct threat to its national existence has prevailed for the past 14 years; that the Soviets are as aware as we that such "deterrence" was the result of moral factors, not military power factors; and that the Soviets are not likely to think a "small force of ICBMs" would tilt the power balance in their favor or would make the US any more acquiescent than heretofore to their "strong political and psychological pressures."



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23. With reference to the illustrative programs presented above, the members of the United States Intelligence Board have concluded as follows:

a. The Director of Central Intelligence considers that program "A" should be regarded

as the nearest approximation of the actual Soviet program.

b. The Assistant Chief of Staff, Intelligence, USAF, believes that program "B" approximates the most likely Soviet program.

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c. The Director of Intelligence and Research, Department of State,<sup>29</sup> the Assistant

<sup>29</sup> The Director of Intelligence and Research, Department of State, wishes to amplify his view as expressed in this paragraph. He believes that the size of the Soviet ICBM force will depend largely on which of two general objectives the Soviets aim to achieve with this force. One possibility is that the Soviet leaders do not see sufficient advantage in building an ICBM force larger than what they would consider adequate to deter the US from initiating general war in all situations short of a direct threat to its national existence. They might consider that a relatively small and well-protected ICBM force, approximating that which would result from program "C," would suffice for this purpose since it would pose a serious threat to major metropolitan areas by mid-1961 and an increasing threat to unhardened US bases as well in later years. If, however, the Soviet leaders believed that, during the period when the US will have few seaborne missiles or ICBMs on hardened sites, the ability to threaten SAC bases and unhardened ICBM sites would give them significant additional advantages in the confrontation with the US, they would probably adopt a more vigorous program. The resulting ICBM force would then probably approach the levels calculated for program "B" and would give the USSR a substantial pre-emptive capability before the end of 1961.

The Director of Intelligence and Research, Department of State, believes that Soviet planners would regard the advantages to be gained from having a large ICBM force in the 1960-1961 period as justifying the additional effort required by program "B." He does not exclude the possibility that the actual Soviet program is planned to provide no more ICBMs on launcher than the strength levels calculated for program "C," and he recognizes that a larger program might fall considerably short of its goals, but he believes the Soviet program is more likely to approximate illustrative program "B" in the near term. Specifically, he estimates (1) that the number of Soviet ICBMs on launcher in mid-1961 is likely to be close to the high side of the 150-200 range and (2) that the Soviet program will probably continue at the rate projected for program "B" at least through 1961. Since there is no particular ICBM force goal which would be achieved in 1962-1963 by continuing the Soviet program at the rates calculated for programs "A" or "B," he believes the Soviet program after 1961 will either taper off or be accelerated. Of these two alternatives, he considers the latter (i.e., acceleration of the program) somewhat more likely.

to the Secretary of Defense for Special Operations, and the Director for Intelligence, Joint Staff, believe that the Soviet planners would regard the advantages to be gained from having a large ICBM force in the near term as justifying the effort required for a program which would be toward the high side of the range defined by illustrative programs "A" and "B." Further, these members consider that in the light of factors discussed in paragraph 25 it will continue to grow within the "A"- "B" range during the 1962-1963 period.

d. The Assistant Chief of Staff for Intelligence, Department of the Army, and the Assistant Chief of Naval Operations (Intelligence), Department of the Navy, believe that illustrative program "C" most nearly approximates the actual Soviet program.<sup>30 31</sup>

<sup>30</sup> The Assistant Chief of Staff for Intelligence, Department of the Army, believes that the actual Soviet ICBM program is no larger, and perhaps even less, than illustrative program "C." He believes the following points to be relevant:

a. In the establishment of an operational capability, the critical factors are the training of troops and the provision of operational launching facilities. As yet, the intelligence community has not identified any troop training activities, nor any operational ICBM launching facilities.

b. The deliberate and orderly tempo of Soviet ICBM test range activity [

] indicates that the USSR is not now engaged in a "crash" ICBM program.

c. Soviet doctrine suggests that the ICBM capability is thought of primarily in terms of deterrence and, in case deterrence should fail, pre-emptive or retaliatory attack, rather than the deliberate initiation of general war.

d. Computations of Soviet ICBMs on launcher theoretically required for an initial salvo designed to inflict severe damage on fixed targets directly related to immediate US nuclear retaliatory capabilities render results too various to provide a reliable basis for estimating Soviet ICBM force goals.

e. In the Soviet mind, a relatively small force of ICBMs would be strong enough to deter the US from initiating general war in all situations short of a direct threat to its national existence, and Soviet secrecy would enhance the effectiveness of such a force for deterrence and for supporting strong political and psychological pressures on the US.

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24. It is notable that the potential threat posed by programs "A" and "B" is substantially the same through 1960. Before the end of the year, either would provide a capability to inflict massive destruction on the principal US metropolitan areas. At the beginning of 1961, either would provide sufficient ICBMs and launchers to threaten the SAC operational air base system. Thereafter, the threat posed by program "B" would increase more rapidly than that of program "A." By about mid-1961, program "B" would provide Soviet planners with a high assurance of being able to severely damage most of the SAC air base system in an initial salvo, whereas program "A" would reach this point late in the year. The considerably smaller program "C"

would provide a capability to inflict massive destruction on the principal US metropolitan areas sometime in 1961.

25. The present Soviet ICBM program is, of course, subject to change as the period progresses. Soviet planning for the period beyond 1961 will be substantially affected by the actual development of US retaliatory forces, the prospects for a greatly improved Soviet ICBM, and the prospects, on each side, for an effective defense against ICBMs, as well as the general development of the world situation and of relations between the US and the USSR. Our estimates for future years must be reviewed in the light of such developments and of such additional evidence as

f. The Soviets would consider nuclear general war to be self-defeating as a means of advancing their interests. To them, it would be more profitable to direct resources toward winning the world by demonstrating superiority of the Soviet system for economic and social development.

Based on an analysis of the foregoing factors, the Assistant Chief of Staff for Intelligence, Department of the Army, believes the implication which is clearest is that the Soviets have concluded that the possession of ICBM capabilities by both sides puts a still higher premium upon other forms of struggle, and that they believe their advantages in this respect are so great as to insure their eventual triumph without resort to general nuclear war. He would point out that, as long as the Soviets are able to maintain secrecy concerning their actual ICBM strength, their deterrence will be as effective as their propaganda. In any case, he believes that an estimated Soviet capability to detonate one ICBM over each of 25 principal US metropolitan areas in 1961 is a tremendous deterrent.

The Assistant Chief of Staff for Intelligence, Department of the Army, believes that the scale of activity required for the initial ICBM launcher deployment envisioned in program "A" would be of such a magnitude that it could not reasonably go undetected by present intelligence collection means. He would point out that the Soviets would have to have in some phase of development at present about 210 launching facilities, considering only a one-year lead time for construction as assumed in NIE 11-8-60. He believes, however, that the construction time for soft ICBM launching facilities is from 18 to 28 months, and, therefore, that at least 150 launching facilities should have been under construction in early 1960.

The Assistant Chief of Staff for Intelligence, Department of the Army, believes that the rate of ICBM launcher deployment envisioned in program "B" is highly improbable. Specifically, he would point out that in order to achieve such a rapid buildup, the Soviets would have to have presently under construction or completed, some 320 launching facilities, considering only a one-year lead time as assumed in NIE 11-8-60. However, he believes that the construction time for soft ICBM launching facilities is from 18 to 28 months and, therefore, that over 450 launching facilities should be in some phase of development now, and that at least 200 would have been started before 1 January 1960. It is not reasonable to assume that this scale of activity would go undetected by present intelligence collection means. Further, the Assistant Chief of Staff for Intelligence, Department of the Army, believes that such a program would represent a prodigious construction feat even by US standards, and that it would represent a crash effort very likely to be disruptive of the Soviet economy, particularly with respect to the requirement for specialized equipment and highly trained labor and technicians.

"It is the view of the Assistant Chief of Naval Operations (Intelligence), Department of the Navy, that in the light of the evidence at hand (both positive and negative), a Soviet program of ICBM production and deployment on launchers as set forth in illustrative program "C" most nearly approximates the actual Soviet program. He believes also that a program as large as illustrated in program "A" is feasible and within Soviet capabilities. Further, he believes it most unlikely that the Soviets would pursue a program larger than "A" at this time.

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we may obtain regarding the actual progress of the Soviet program. They must therefore be regarded as highly tentative. For these reasons, we have not projected even a tentative estimate beyond 1963.<sup>22</sup>

#### Intermediate-Range Ballistic Missiles

26. The Soviets are now developing a new surface-to-surface ballistic missile of about 2,000 n.m. range. Testing apparently began at Kapustin Yar about the middle of 1960. In June there were two firings of this missile to about 1,000 n.m. range, and since August there have been nine firings to about 2,000 n.m. When operational, this liquid-fueled missile probably will have an accuracy of 1-2 n.m. or better. There is no evidence on warhead weight, but it is probably between 2,000 and 6,000 pounds. Based on the Soviet development of 700 and 1,100 n.m. missiles, we estimate that an initial operational capability could be achieved in late 1961 or in 1962. In addition to supplementing present target coverage, this new system would permit greater flexibility in deployment.

#### Medium-Range Ballistic Missiles

27. We continue to estimate that with relatively modest programs in 700 and 1,100 n.m. ballistic missiles the Soviets will acquire, in 1960 or 1961, a force of medium-range missiles capable of seriously threatening the major Western landbased retaliatory targets within their range. The 700 n.m. missile is believed to have been operational since 1956 and the 1,100 n.m. missile since late 1958 or early 1959. These missiles are estimated to be capable of delivering 3,000 lb. nuclear payloads with accuracies of 1-2 n.m. and about 2 n.m., respectively. The 700 n.m. missile system is road mobile (but readily adaptable to rail transport), and the 1,100 n.m. system is believed suitable for road or rail mobile em-

ployment. There is evidence that 700 n.m. missiles have been deployed to East Germany as well as to key points in Soviet border regions, and that 1,100 n.m. missiles have been deployed to the Soviet Far East. Even from within the USSR, these ballistic missiles could deliver nuclear warheads against a large majority of critical targets in Eurasia and its periphery.

28. We have no firm information on the numbers of medium-range ballistic missiles the Soviets have produced or deployed. Our estimate, summarized in the table below, is based on such general considerations as the length of time we believe these missiles have been in series production, the availability of warheads in relation to the USSR's other requirements for nuclear materials, the scope of Soviet requirements for initial salvo and subsequent employment, and the availability of other Soviet weapons for supplementary or follow-on use against targets within the range of 700 and 1,100 n.m. missiles. Should the Soviets require larger numbers of these missiles, or additional launchers, their production and deployment over the next few years would not present serious difficulties.

	Mid- 1960	Mid- 1961	Mid- 1962	Mid- 1963	Mid- 1964	Mid- 1965
SS-4 (700 n.m.)						
Launchers <sup>a</sup>	110	150	150	150	150	150
Missiles	250	350	450	450	450	450
SS-5 (1,100 n.m.)						
Launchers	50	100	100	100	100	100
Missiles	80	160	240	300	300	300

#### Submarine-Launched Missiles

29. The USSR now has about 16 long-range, conventionally-powered submarines which are probably equipped to launch ballistic missiles while surfaced or in a sail-away condition. Six of them are "Z" class submarines which were modified in 1956-1957 by enlarging the sail and installing two hatches and vertical tubes. These may have served as prototypes for the new "G" class, in production since 1958, with a sail which

<sup>a</sup> The Assistant Chief of Staff, Intelligence, USAF, believes that, despite the difficulties engendered by consideration of the factors enumerated, an estimate beyond 1963 can be made. He believes that, lacking contradictory information, the rates of increase shown in program "B" would be continued through 1965, with ICBM launchers estimated to be 950 in 1964 and 1,200 in 1965.

<sup>a</sup> The Assistant Chief of Staff, Intelligence, USAF, believes that each operational missile would be provided with a launcher.

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appears large enough to accommodate about three or four vertical tubes. Judging by the size and configuration of the "Z" and "G" class submarines, we believe that the maximum range of their missiles probably does not exceed 350 n.m. The USSR will probably increase its force of "G" class submarines gradually over the next year or two.

30. We believe that Soviet planners would consider it operationally desirable to have nuclear-powered submarines capable of launching ballistic missiles, preferably while submerged. As yet we have no firm evidence of a Soviet equivalent to the Polaris system, but we recognize that an active development program could nevertheless be well underway. We estimate that nuclear-powered submarines, each capable of carrying and launching 6 to 12 submerged-launched missiles of 500-1,000 n.m. range could become operational in the USSR in about 1962-1963. With a reasonable construction program, the USSR could have about 14 such submarines in fleet service by mid-1965. It is possible, however, that the Soviets have elected to equip nuclear submarines with surface-launched missiles of the type attributed to the "Z" and "G" classes. If this is the case, a few Soviet nuclear-powered missile submarines could be operational within the next year.

#### Long-Range Bombers and Aerodynamic Vehicles

31. At present, Long Range Aviation is still the principal component of Soviet military strength capable of long range nuclear weapons delivery. It continues to consist largely of medium bombers, best suited for operations in Eurasia and capable of attacking continental US targets only through extensive use of one-way missions. Within the limitations of its bomber aircraft, it is now a proficient force, although its training, basing, and maintenance fall below US standards. Its estimated strength, as of 1 October 1960, was over 1,100 bombers, comprising about 1,000 BADGER jet medium bombers and some 135<sup>34</sup> heavy bombers of the BISON jet and BEAR

<sup>34</sup> The Assistant Chief of Staff, Intelligence, USAF, believes this figure should be 150.

turboprop types, about two-thirds of them BISONs. Of these aircraft types, only the BISON remains in production, at a fairly steady rate of 2-3 per month. The USSR has not developed an aircraft designed specifically as a tanker; instead, BISONs and BADGERs are converted for use as tankers with their bomber counterparts.

32. The announced Soviet force reductions and military reorganization will probably bring some reduction in the medium bomber strength of Long Range Aviation, and we believe this will manifest itself in two ways:

a. We believe that the few Long Range Aviation BADGER regiments now trained and equipped to launch air-to-surface missiles have been transferred to Naval Aviation, which already possessed the majority of such Soviet units. These units and their missiles are suited primarily for antiship operations, and we believe this mission has been centralized in the naval air arm.

b. A normal phase-down in BADGER strength, assuming no large-scale production of a follow-on type, would reduce the force by some 300 bombers over the next four or five years. We now believe it likely that increasing ballistic missile strength, coupled with the need to reduce force levels, will cause the Soviets to make a deliberate cut of about this magnitude in Long Range Aviation over the next year or so.<sup>35</sup>

33. Nevertheless, the USSR will probably still retain substantial Long Range Aviation strength through 1965. Even after a formidable ICBM capability has been established, the Soviets will require long-range bombers for a variety of purposes, including reconnaissance and attacks on difficult targets. BISON heavy bombers will probably continue to be produced at about the present rate for the next year or so. A new supersonic "dash" medium bomber, with primary utility against Eurasian and peripheral targets, is now under

<sup>35</sup> The Assistant Chief of Staff, Intelligence, USAF, does not concur in this sentence. See his footnote to paragraph 34 for his estimate of the strength of Long Range Aviation throughout the period.

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development and could probably become available for operational units in 1961. It is probably intended for highly specialized uses in Long Range Aviation, and possibly in Naval and Tactical Aviation. Test flights of a subsonic nuclear-powered aircraft could be undertaken during the period of this estimate, but we believe it unlikely that the Soviets will have any nuclear-powered bombers in operational service within the next five years.<sup>35</sup>

34. Thus, we estimate that BISONs and BADGERs will remain the most numerous of the bombers in Soviet Long Range Aviation, and that the aircraft strength of this component will be about as follows during the period of the estimate:

	Mid-1960	Mid-1961	Mid-1962	Mid-1963	Mid-1964	Mid-1965
<i>Bombers and Tankers</i>						
Heavy	135	150	140	130	120	100
Medium	1,100	950	800	800	800	750

35. Regardless of reductions in the size of the long-range bomber force, proficiency will be maintained in such areas as nuclear weapons handling, inflight refueling and Arctic staging, and in jamming and other penetration aids, probably including decoys. A supersonic air-to-surface missile with a range of at least 350 n.m., primarily for use against land targets, is probably now available. This missile is probably designed to increase the

\* The Assistant Chief of Staff, Intelligence, USAF, believes such an aircraft could be in operational service in 1964.

"This total will probably include a few supersonic "dash" medium bombers in 1961, building up to perhaps 100 by 1963-1964."

\* The Assistant Chief of Staff, Intelligence, USAF, believes that the numbers of bombers and tankers should read:

	Mid-1960	Mid-1961	Mid-1962	Mid-1963	Mid-1964	Mid-1965
<i>Bombers and Tankers</i>						
Heavy	135	175	200	200	200	200
Medium	1,100	1,000	950	900	800	800

\* Probably including a few new supersonic "dash" bombers in 1961, building up to some 300 in mid-1965.

chances of penetration to heavily-defended targets by currently-operational heavy and possibly medium bombers, thus extending their useful service life. It will presumably be compatible with the supersonic "dash" medium bomber.

36. We estimate that the Soviets are developing and could have available for operational use in 1961-1963 a ground-launched ramjet-propelled vehicle with a speed of about Mach 3, an altitude of 65,000-70,000 feet, and a range in excess of 4,000 n.m. Such a vehicle could be employed for weapon delivery or reconnaissance, and would further complicate Western air defense problems. On the basis of present evidence, it is impossible to predict the manner in which such a system will contribute to Soviet capabilities for long-range attack or the degree of reliance the USSR will place upon it.

#### Capabilities for Long-Range Attack

37. At present, the Soviets could mount large-scale nuclear attacks against North American targets, utilizing to the maximum their bomber capability and their relatively small submarine-launched missile and ICBM capabilities. Employment of the medium bomber force would require extensive use of one-way missions. The actual weight of attack launched against the US would depend upon the Soviet judgment as to the optimum combination of surprise and weight of attack against all areas where US and Allied nuclear retaliatory capabilities and other essential targets were located. Against land-based Western capabilities deployed on the periphery of the Bloc, the Soviets could employ ballistic missiles and light and medium bombers. Aircraft as well as submarines could be employed against Western naval forces. The Soviet leaders probably regard their current long-range attack forces as adequate to deliver a devastating attack on concentrations of population and industry, but incapable of preventing, by military action, the nuclear devastation of the USSR.

38. Because the ICBM offers the best prospect of being able to achieve the destruction of a substantial portion of the US nuclear

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retaliatory capability prior to launch, the future development of Soviet intercontinental attack capabilities will be primarily a function of the production and deployment of ICBMs. Through the period of this estimate, however, the long-range striking capabilities of the USSR will include both manned bombers and ballistic missiles. Missile-carrying submarines will add to Soviet capabilities, but we believe that the Soviets do not contemplate delivery of the main weight of an attack by this means. Soviet employment of long-range striking capabilities would continue to face great difficulties of timing and distribution of attack against widely deployed, mobile, and ready Western strengths.

#### AIR DEFENSE FORCES<sup>39</sup>

##### General

39. The air defenses of the Sino-Soviet Bloc are designed primarily to provide defense in depth for major population, industrial, and military centers, especially those in the USSR. They also provide a barrier around much of the Bloc's periphery. In order to attain maximum effectiveness, all Soviet forces deployed for the air defense of the USSR are under the operational control of a single major headquarters (PVO Strany—Air Defense of the Country). In addition to forces directly assigned, other Soviet forces which can contribute to the air defense mission are also operationally available to this command. Similarly, the air defense forces of other Bloc nations are closely coordinated with the Soviet system.

40. The Soviet air defense system is undergoing a major transition which has already improved its capabilities against medium- and high-altitude air attack. The principal aspects of this transition are: (a) the rapid installation of surface-to-air missile sites, and (b) the widespread deployment of an air defense control system with semiautomatic features. Other significant recent developments include the advent of radars with better de-

tection and height-finding capabilities, the introduction of limited numbers of improved interceptors, the estimated introduction of nuclear warheads into surface-to-air missiles, and the probable incorporation of more advanced electronic gear and armament into interceptors.

41. The foregoing major trends and developments, increasingly evident in Soviet air defense forces over the past two to three years, are the fruit of earlier Soviet assessments of the likely progress in Western air attack capabilities and of intensive Soviet research and development in defense systems to counter these Western capabilities. The current transition to improved defenses against medium- and high-altitude air attack will probably be substantially completed within the next year or so. It is also probable that in the near term operational Soviet defenses will begin to include weapons and control systems designed to cope more effectively with low-altitude air attack. Meanwhile, the highest Soviet priority in air defense research and development is almost certainly being accorded to defense against ballistic missiles. The emergence of Western capabilities in IRBMs and ICBMs has undoubtedly impelled the Soviets to vigorous exploration of anti-missile defenses as holding some promise of breaking the nuclear stalemate.

##### Air Defense Weapons

42. *Surface-to-Air Missiles.*<sup>40</sup> The Soviets now have operational two types of surface-to-air missile systems. The first of these (SA-1), which has been operational for about four years, is deployed around Moscow in a dense and costly complex of 56 sites, each having 60 launching positions. The Moscow complex can probably direct a very high rate of fire against multiple targets at medium- and high-altitudes under all weather conditions, but the system is probably ineffective against very low-altitude attacks. Because of its cost, immobility, and inflexibility, we do not believe

<sup>39</sup> For a more detailed discussion see NIE 11-3-60, "Sino-Soviet Air Defense Capabilities Through Mid-1965," dated 29 March 1960. TOP SECRET

<sup>40</sup> For detailed estimates of the characteristics and performance of these missiles, see NIE 11-5-60, "Soviet Capabilities in Guided Missiles and Space Vehicles," dated 3 May 1960. TOP SECRET

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that the SA-1 system will be deployed elsewhere in the Soviet Union. The missile employed in this system probably is being replaced by a more advanced missile (described in paragraph 44), which should improve its capabilities against high-altitude and high-speed targets and against targets with small radar cross sections.

43. Since early 1958, the USSR has been rapidly acquiring a major operational capability with an improved surface-to-air missile system (SA-2), which appears suitable for the defense of both fixed targets and field forces. A typical site consists of six revetted launching positions deployed around a guidance system and linked by service roads to facilitate loading. Such sites have been observed at numerous locations in the USSR as well as in Albania, Bulgaria, and East Germany. Defenses of various densities are apparently programmed for all major Soviet cities as well as other key targets.

44. The missile employed in this system is a large, boosted two-stage missile (nicknamed GUIDELINE) with a maximum velocity of about Mach 3. Maximum intercept range will vary depending upon the approach and type of target; for example, against a directly incoming, high-flying B-52, its range would be on the order of 25 n.m. with an accuracy of about 100 feet. The SA-2 system does not appear to be designed to cope with low-level attacks, but rather for defense against small numbers of penetrators at medium and high altitudes. Maximum altitude capability is estimated to be about 60,000 feet, with some capability up to about 80,000 feet, especially if equipped with a nuclear warhead. The low altitude capability of the SA-2 system depends upon siting and operational factors. Under ideal conditions, it could be as low as about 1,000 feet against heavy and medium bombers, but under usual conditions it would be considerably higher, and under unfavorable conditions might be as high as 7,000 feet. Each site appears capable of 360 degrees coverage, and possibly can handle two targets at a time. However, these targets must be within the approximate 12 degree look angle of the guidance radar.

45. More than 100 SA-2 sites have been identified at nearly 40 urban areas in the USSR. Considering the length of time the SA-2 program has probably been underway, the relative ease with which sites can be installed, and the observed patterns of deployment, we estimate that in all more than 300 sites are now in operational status or being emplaced at more than 50 Soviet urban areas as well as at other targets. If the general SA-2 pattern were completed along the lines presently indicated, it would require a total of some 350-400 sites (excluding the SA-1 sites around Moscow), deployed at about 70-80 locations including about 60-65 urban-industrial areas. We estimate that a basic program of this magnitude could be completed by the end of 1960. After the current program is completed, we believe that the Soviets will have acquired relatively effective missile defense for their major target areas against medium- and high-altitude air attack. A more extensive program of 500-600 sites and field force units could probably be completed some time in 1961. In addition, over the next few years the Soviets probably will provide other countries of the Bloc with surface-to-air missiles for defense of capital cities and possibly other important targets.

46. In order to reduce their vulnerability to low-level attack, the Soviets probably have under development a missile system (SA-3) specifically designed to engage targets at very low altitudes. We have estimated that such a system could become operational in late 1960, or, more likely, in 1961. Assuming a high priority deployment program, we believe that the SA-2 defenses of static targets could be adequately supplemented with low-altitude SA-3 units by the end of 1962 or in 1963. A low-altitude system could also be deployed in mobile units to augment the defenses of Soviet field forces.

47. For defense against more advanced aircraft and cruise-type missiles at high altitudes, the USSR will probably seek to improve the altitude and range capabilities of the SA-2 system. Significant improvements in this system could appear in about 1961. In view of the widespread deployment and estimated growth potential of the SA-2, we now

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consider it very unlikely that the Soviets will develop in the near term an entirely new high-altitude system (previously estimated as SA-4). It remains possible, however, that such a system will be developed for operational use at a later date; a Soviet decision regarding its operational desirability will probably be significantly influenced by US progress in high-altitude supersonic bombers and aerodynamic missiles.

48. There is firm evidence that the Soviets have an extensive and high priority research and development program in the field of warning and defense against ballistic missiles. A large complex of research and development facilities, whose current work is evidently directed primarily toward the ballistic missile defense problem, is active in the Sary Shagan area near Lake Balkhash. Judging by the status of construction and other activities, we believe that research and development in ballistic missile defense has been actively pursued at Sary Shagan for as long as two years. The progress achieved to date cannot be determined with precision, but the Soviets have probably been testing components and sub-assemblies suitable for acquisition, tracking, and data handling. We have no evidence that antimissile missiles have actually been launched against ballistic missiles, but test vehicles may have been fired and the Soviets may be nearly ready for initial system tests. The location of the complex indicates that initial flight tests will be against medium or intermediate range missiles launched from the Kapustin Yar range-head. However, the facilities are suitable for development of anti-ICBM hardware, and we believe that flight tests from the Kamchatka Peninsula against ICBMs will follow as soon as practicable.

49. It is almost certain that the antimissile defense system under development at Sary Shagan is a static system designed to intercept ballistic missiles during the terminal phase of their trajectories. The direct evidence at hand and our assessment of Soviet capabilities in related technical fields lead us to estimate that the USSR could have an antimissile system of this type ready for first operational use in the 1963-1966 period.

Western forces at that time will possess numerous, widely-dispersed IRBMs and ICBMs; Soviet planners must assume that these will include types with sophisticated nosecones and penetration aids. We cannot determine how adequate a defense the Soviet antimissile system now under development will provide against these various Western missiles. The degree of Soviet success will depend on the solution of manifold technical problems, particularly the problem of discerning and discriminating a warhead among the debris and decoys which may accompany it, and soon enough to permit effective launching of antimissile missiles.

50. We believe that the Soviets would wish to deploy antimissile defenses as soon as possible for the protection of at least a few critical areas, even if the available system provided only an interim, limited capability. Such a course would be consistent with the high-priority they accord to improving their defenses against Western nuclear strikes. Moreover, the early deployment of an antimissile system—even though its effectiveness were limited or uncertain—would, in their view, have great political impact and would weigh significantly in the world balance of forces. We therefore estimate that in 1963-1966, the USSR will probably begin at least limited deployment of an antimissile missile system of undetermined effectiveness. Further Soviet research and development in antimissile defense, perhaps including unconventional techniques, will undoubtedly continue well beyond the period of this estimate.

51. A system designed to intercept ballistic missiles could also be adapted for employment against earth satellites. In 1963-1966, the USSR could probably achieve a limited capability to destroy satellites having relatively low, established orbits.

52. At present, nuclear warheads appear to offer the best promise for destruction of targets outside the atmosphere. We estimate that the Soviets would utilize such warheads in air defense systems designed to intercept ballistic missiles and satellites. Two of the thermonuclear devices tested by the USSR in 1958 might lend themselves to antimissile

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defense applications. However, we have no evidence of Soviet nuclear tests at very high altitudes (above 30,000 feet or in space), and believe that they lack basic effects data on high altitude and space detonations. In the absence of further nuclear testing, the lack of such data would not prevent development of a nuclear-armed antimissile system, but would handicap development and evaluation of such a system.

53. *Fighter Aircraft.* As of 1 October 1960, we believe that there were about 11,300 fighters in active operational units throughout the Bloc with about 7,150 in Soviet units. About 4,550 of the Soviet fighters are in Fighter Aviation of Air Defense (IA-PVO) with air defense as their exclusive mission. The Soviet fighter force consists primarily of day fighters, including about 250 new supersonic fighters, about 900 transonic FARMERs, and about 4,800 older subsonic FRESCO and FAGOTs. Two new supersonic fighters, probably developments of the 1956 FITTER/FISHPOT and FISHBED prototypes, have appeared in units. These new aircraft are believed to be capable of speeds on the order of Mach 2, and some may have auxiliary rocket engines. In addition, there are in service about 450 FLASHLIGHT all-weather fighters and about 750 modified day fighters with limited all-weather capabilities (FRESCO "D" and "E" and FARMER "B" and "E" types).

54. Soviet jet fighters appear to have been designed primarily for the interceptor role and have good climb and altitude capabilities. Most Bloc jet fighters have combat ceilings on the order of 50,000 feet, but the newer types, including FARMER and FITTER/FISHPOT, have combat ceilings of about 60,000 feet. At maximum power, the FARMER is believed capable of climbing to 40,000 feet in 2.6 minutes and the FITTER/FISHPOT in 2.2 minutes. The gun armament of Soviet fighters has not kept pace with improvements in aircraft performance characteristics. However, there is evidence that air-to-air missiles have been supplied to some operational units, and most Soviet interceptors are believed capable of employing unguided rockets, guided missiles, or combination armaments.

Use of air-to-air missiles would involve some degradation in fighter performance.

55. Soviet introduction of new fighter types into the air defense system probably will continue through at least the early 1960's, and research and development activities on supersonic fighters probably will continue through the period of this estimate. However, Soviet production of jet fighter aircraft has dropped sharply over the past three years. From 1950 to 1956 annual production ranged from about 3,500 to about 5,000. It is estimated to have declined to about 400-450 in 1959, and present evidence suggests only a moderate increase for 1960. We estimate that between 1960 and 1965, there will be a reduction in the total number of operational Soviet fighters on the order of 50 percent. There are current indications of large-scale reductions in Soviet tactical and naval fighter forces. In contrast, reductions to date in the IA-PVO—resulting primarily from the phasing out of older fighter types—have been largely offset by the transfer of aircraft and units from tactical and naval control, and by the introduction of new interceptors.

56. *Antiaircraft Guns.* The Soviets continue to employ large numbers of antiaircraft guns for defense of field forces and fixed targets including airfields. These guns range in size from 57 mm. to 130 mm. A large percentage employ fire control radars. Proximity fuzes probably are used in some AAA ammunition. European Satellite forces have about 5,000 antiaircraft guns, and there are about 4,000 in Communist China, North Korea, and North Vietnam. The number of antiaircraft guns in the Soviet forces has declined over the past two years, and there is evidence that this trend is continuing. Considering the widespread deployment of surface-to-air missiles and the projected Soviet force reductions, we believe that most of the remaining medium and heavy guns will be phased out of the defenses of static targets in the USSR within the next year or so. Transfer of some of this equipment to other Bloc countries is probable. Light AAA probably will be retained for low-altitude defense until low-altitude surface-to-air missile strength is well established.

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#### Radar and Control Equipment

57. Radar coverage now extends over the entire USSR and East European Satellite area except for certain inland portions of central and eastern Siberia. Coverage extends along the entire coastal region of Communist China, but gaps apparently remain in southwestern China. The very large number of radars employed in the Soviet system provides a high duplication of coverage in many areas which, properly exploited, would increase the USSR's capability to maintain track on attacking aircraft even when jamming is employed.

58. About 1,200-1,500 heavy prime radars, primarily of the TOKEN and BAR LOCK types, and about 3,000 light auxiliary radars are deployed in about 2,000 radar sites in the Sino-Soviet Bloc. This maximum detection range probably has been increased to more than 300 n.m. at altitudes of 60,000 feet or more in certain peripheral areas where a new early warning radar (nicknamed TALL KING) has been deployed. Against jet medium bombers penetrating at altitudes up to their combat ceilings, the maximum detection ranges of these primarily early warning radars are estimated at 150 to 220 n.m. Against similar targets, the tracking range of the major ground-controlled intercept (GCI) radars varies from about 110 n.m. for the TOKEN to about 220 n.m. for the newer GCI radar and height-finder radar combinations. Theoretically, maximum altitude coverage for these radars could extend up to about 70,000 feet for the TOKEN and up to an estimated 220,000 feet for the newer combinations. Wider use of the newer types of radars which are now being rapidly deployed throughout the Bloc will significantly improve Soviet capabilities against targets flying at medium and high altitudes. The low-altitude capabilities of Soviet early warning radars are limited and will remain poorer than their high- and medium-altitude capabilities.

59. The development of high-frequency ionospheric backscatter radars for detection of long-range missile launchings has been within Soviet capabilities for the last five years. The Soviets have attained a high degree of competence both in the theoretical aspects of

backscatter research and in practical applications. Much Soviet work in this field has related to development of new communications techniques, but the Soviets probably also have used this method for detection of US nuclear detonations, and possibly against US missile launchings. The use of high-frequency ionospheric backscatter radars for early warning of an ICBM or IRBM attack would materially increase the detection and tracking capabilities of an antimissile defense system. We believe that some such radars may now be in position.

60. The FLASHLIGHT's airborne intercept radar, which has an estimated search range of about 12-16 n.m. and a track range of about 6-10 n.m., is believed to be the most effective Soviet AI radar now in widespread use. The FRESCO "D" and "E" and the FARMER "B" are equipped with AI radars which give them a limited all-weather capability. In addition, day fighters equipped with range-only radar and infrared air-to-air missiles would have a limited capability at night in clear weather. During the next five years, as the speed of interceptors is increased and air-to-air missiles are improved, the maximum ranges of AI radars probably will increase accordingly. By the end of the period, some Soviet fighters may be equipped with AI radar and related electronics gear capable of completely automatic interception. The Soviets are now introducing a new IFF system which will probably have completely replaced the older system by 1961.

61. The most important advance in Soviet air defense communications over the last few years has been the development and deployment of a new air defense control system with some semiautomatic features, including data-handling equipment for rapid processing of air defense information and data-link equipment for vectoring interceptors. This system, which is similar in concept to the US SAGE system but less complex, provides high-speed communications with a high degree of reliability and accurate semiautomatic control of interceptors. It is believed to be widely deployed in the western USSR and will probably become operational throughout the USSR and Eastern

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Europe within the next few years. It will have a marked effect in reducing reaction time and vulnerability to saturation, increasing information handling capacity, and improving coordination with the Soviet air defense system.

62. Wider deployment of the improved types of radars already in service, together with developments in automated control systems, probably will lead to a decrease in total radar numbers, though with an increase in system effectiveness, during the period of this estimate.

#### Deployment

63. Air defense weapons and equipment are most heavily concentrated in that portion of the USSR west of a line drawn from the Kola Peninsula to the Caspian Sea; in East Germany, Poland, and Czechoslovakia; and in the southern portion of the Soviet Far East. Concentrations are found at some specific locations outside these areas, especially in the Urals and in eastern China. The approaches to Moscow are by far the most heavily defended area of the Bloc.

#### Civil Defense

64. Civil defense preparations in the USSR are supervised by the Local Antiair Defense of the Country (*MPVO Strany*), a central agency with staff representatives at regional and local levels. Training the Soviet population in civil defense is the responsibility of the paramilitary mass organization, DOSAAF (Voluntary Society for Cooperation with the Army, Aviation, and Fleet). Some civil defense instruction and indoctrination has been given to a majority of the urban population, and we believe that some select groups, such as workers in key factories and students, have probably received more intensive training.

65. The most important deficiency in Soviet civil defense is the lack of adequate shelter for the bulk of the population. Heavy bunkers and tunnel-type shelters have been constructed for approximately two million key personnel. Some protection against fallout could be provided by basement shelters which may be available for as many as 15 million

persons and by subways which could accommodate about two million. During the past year, Soviet leaders have voiced dissatisfaction with the USSR's shelter program and there is evidence that construction of basement shelters has been discontinued. In their stead, stronger, detached shelters have been constructed in several areas, but the status and extent of this program is not known. The Soviets are also undertaking to protect communications by putting cables, repeaters, and transmitting centers underground. Recently, some consideration has been given to evacuating nonessential elements of the civil population upon official declaration of a "threatening situation." However, virtually nothing has been done to provide shelter in rural areas. The lack of adequate shelter is a deficiency which will persist during the period of this estimate.

#### Warning Time

66. The amount of warning time available significantly affects the capabilities of air defenses in various areas of the Bloc. Early warning radar could now give Moscow and many other targets in the interior more than one hour's warning of attacks made with present Western bomber types. The more limited early warning time available in Bloc border areas would reduce the effectiveness of the defenses of even heavily defended targets in such areas. As the speeds of Western aerodynamic vehicles increase, and as Western ballistic missiles become a greater part of the threat, the problem of warning time will become more critical.

#### Soviet Air Defense Capabilities

67. The rapid and extensive deployment of surface-to-air missiles over the past two years has significantly improved Soviet air defense capabilities. The present capabilities of the Soviet air defense system would be greatest against penetrations by subsonic bombers in daylight and clear weather at altitudes between about 3,000 and about 45,000 feet. Under such conditions, virtually all types of Bloc air defense weapons could be brought to bear against attacking aircraft. Most Soviet fighters could operate effectively at alti-

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tudes up to about 50,000 feet, and the newer types up to about 60,000 feet, but the capabilities of the fighter force would be reduced considerably during periods of darkness or poor visibility. In the increasingly widespread areas defended by surface-to-air missiles, air defense capabilities would be virtually unimpaired by weather conditions and would extend to about 60,000 feet, with some capabilities up to about 80,000 feet. At altitudes below about 3,000 feet, the capabilities of the system would be progressively reduced; below about 1,000 feet, the system would lose most of its effectiveness. Despite its recent and considerable improvements, the Soviet air defense system would still have great difficulty in coping with a large-scale air attack employing varied and sophisticated tactics. In addition, the Soviet defense problem would be complicated by the variety of delivery systems which might be employed, including cruise-type missiles, fighter-bombers, and supersonic bombers. We believe that the Soviets do not now have an active defense capability against ballistic missiles of any type.

68. We believe that the Soviets will continue to improve the overall capability of their large and complex air defense establishment. Nevertheless, the Soviets probably will still not achieve a high degree of assurance in dealing with a large-scale sophisticated attack by manned bombers armed with high-yield nuclear weapons. The Soviets are undoubtedly making vigorous efforts to counter more advanced Western weapon systems. We believe that they could achieve a limited capability against ballistic missiles toward the end of the period. But, barring an unforeseen technological breakthrough, we believe that the USSR's air defense problems, deficiencies, and uncertainties will increase toward the end of the period as ballistic missiles assume a larger proportion of the West's total nuclear delivery capability.

#### SOVIET THEATER FIELD FORCES

69. The Soviet ground forces, which represent the largest part of the Soviet military establishment, are well-balanced, ably led, and equipped with excellent materiel of recent design and manufacture. Air support for

these forces is provided by Tactical Aviation and by military transports assigned to the Airborne Troops. Under certain circumstances Long Range Aviation and Naval Aviation could also contribute support to land operations; however, such use probably would not be permitted to interfere with their primary missions.

70. Combat troops along with proportionate amounts of Tactical Aviation, are distributed among 15 military districts in the USSR and three groups of forces in the European Satellites. The strongest concentrations are in East Germany, the western and southern border regions of the USSR, and the Maritime area of the Soviet Far East. An artillery division and other combat support elements were recently withdrawn from East Germany and larger reductions may be impending; however, we believe that substantial Soviet forces will remain there during the period of this estimate. Substantial reductions may also be underway in border areas of the Soviet Far East.

71. In areas of densest concentration, Soviet ground forces are organized into field armies with full complements of combat and service support for line divisions. Units of Tactical Aviation are organized into tactical air armies or military district air forces under the operational control of the theater or military district commander. Other supporting units include large numbers of artillery and anti-aircraft artillery brigades which are either assigned to field armies or retained under higher command headquarters.

72. We believe that the reorganization and personnel reduction which is now in its early stages will significantly affect the size and composition of theater field forces. Major trends manifest over the next two years probably will include: (a) growing reliance on guided missiles and unguided rockets for support of field force units; (b) sharp cutbacks in the jet fighter and light bomber strength of supporting air units; (c) considerable reduction in the number of combat-ready and low-strength line divisions; (d) greater emphasis in the remaining ground formations on armored mobility and firepower.

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## Strength and Composition of Ground Forces

73. Line divisions in the Soviet ground forces as of 1 January 1960 are estimated to have totaled 170 including 24 tank divisions, 78 motorized rifle and mechanized divisions, 58 rifle divisions, and 10 airborne divisions. Approximately 100 of these divisions are believed to have been sufficiently manned (averaging about two-thirds of authorized strength) to be classed as combat ready; the remainder, mainly rifle divisions, were at such low strength (averaging about one-third) as to require considerable buildup before being committed. There is insufficient evidence at this time to provide a firm basis for an estimate of the number of Soviet divisions and other units which may have been demobilized during 1960. However, we believe that the demobilization now underway has reduced the total number of line divisions to approximately 155-160 as of 1 October, and has reduced the strength of some of those remaining. Forces in the border areas and the Satellites, where the highest manning levels and best equipment are maintained, could effectively initiate combat operations without prior reinforcement.

74. The ground forces are likely to sustain the greatest numerical reductions of any of the Soviet component forces. The older rifle and mechanized division types probably will be dropped from the roster of active divisions. The number of active airborne, tank, and motorized rifle divisions probably will be kept at approximately the present level. We believe that the Soviets may revise their standards for low strength units, reducing them to cadre status (about one-fourth strength) in order to

retain a larger number of divisions readily available for mobilization. There is little evidence on the probable future strength and status of ground force reserves beyond some indications that the Soviets may be also planning the organization of "territorial" reserve forces along our national guard lines. We are unable to estimate the future strength of these reserves, but Soviet statements emphasize in connection with the present force reduction that substantial reserves will be available for ready mobilization.

## Ground Forces Weapons

75. The program of modernization and reorganization of Soviet ground forces has involved the introduction over the last several years of more advanced designs of practically all types of equipment, including tanks, armored personnel carriers, self-propelled guns, unguided rockets with ranges to 35 n.m., new artillery and antiaircraft pieces, recoilless antitank weapons, a new family of small arms, and a wide variety of transport vehicles. In some instances, there have been two successive generations of weapons since World War II. The increasing number of tracked and wheeled amphibians and amphibious tanks has greatly improved Soviet river-crossing capabilities. A few types of specialized weapons have been produced for airborne troops, but for the most part airborne units are armed with standard infantry weapons. Present trends in the ground weapons development program point to a continuing emphasis on firepower and mobility. Specific areas of concentration probably will include defensive weapons

## ESTIMATED NUMBERS OF SOVIET LINE DIVISIONS

Line Divisions	1 January 1960			1 January 1962		
	Combat rdy	Low str.	Total	Combat rdy	Cadre	Total
Airborne .....	8	2	10	10	0	10
Tank .....	22	2	24	20	5	25
Motorized Rifle (in 1960						
Incl. some mech) .....	57	21	78	35	55	90
Rifle .....	13	45	58	0	0	0
Total .....	100	70	170	65	60	125 <sup>a</sup>

<sup>a</sup> This estimate of the number of divisions which will be retained after the reduction and reorganization is intended only to indicate an order of magnitude. If the Soviets adopted higher manning levels for line divisions and support units the number of divisions would probably be lower.

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against low-flying aircraft, air transportable weapons and equipment, weight reduction of existing equipment, and improved armor.

76. Soviet development of guided missiles has greatly improved the fire support available to field forces. Road mobile surface-to-surface ballistic missiles with maximum ranges of 75 n.m., 200 n.m., and 350 n.m. have probably been available for operational use for several years. A 700 n.m. ballistic missile probably entered service in 1956, and an 1,100 n.m. ballistic missile in late 1958 or early 1959.<sup>42</sup> Depending upon operational considerations and the availability of nuclear materials, HE, nuclear, and CW warheads could be employed in all of these weapons. In view of operational considerations, BW use in ballistic missiles is unlikely, although possible for certain special purposes. Nuclear warheads would probably be used in virtually all 700 n.m. and 1,100 n.m. missiles.

77. The shortest range ballistic missile system (SS-1) could be used at ranges between 25 and 75 n.m., which are typical initial objectives of divisions and corps. The 200 n.m. maximum range of the SS-2 is compatible with army objectives. The SS-3 and SS-4, with maximum ranges of 350 and 700 n.m., respectively, as well as the longer range missiles, can attack both initial and subsequent objectives of fronts, the largest wartime field commands. However, we believe that the employment of missiles of 700 n.m. range and greater would initially be very largely limited to strikes against Western nuclear attack forces.

78. There is virtually no evidence as to the numbers of SS-1, SS-2, or SS-3 ballistic missiles available for operational use, nor as to the numbers and types of missile units in being. On the other hand, the Soviets have had experience over the past five years in producing these short-range ballistic missiles, probably have an extensive production capability, and have had ample time to form and train units in their use. We believe, there-

fore, that the present Soviet capability to employ such missiles is substantial.<sup>43</sup> It should be noted that most of these shorter range missiles would probably be equipped with non-nuclear warheads.

#### Air Support

79. We believe that Tactical Aviation is undergoing sharp cuts as part of the general reorganization and force reduction of the Soviet armed forces. Light bomber units, still equipped with the obsolescent BEAGLE, have already been cut by about two-thirds from the 2,100 aircraft estimated in January 1960, and we believe will be further reduced. Jet fighter strength has probably been reduced during 1960 from about 4,000 to about 2,600 through deactivation of units with older models and transfers to the IA-PVO. Further cuts probably will bring the total down to about 1,500 in 1962. The fighters of Tactical Aviation are trained in ground attack techniques in addition to air defense, and the bombers are trained in ground support bombing.

80. Soviet military transports are under the administrative authority of Military Transport Aviation which furnishes airlift support to all Soviet military forces except the navy and coordinates military air transport activity. This component has about 2,000 light and medium transports, most of which are allocated to support of various forces: Long Range Aviation, IA-PVO, Tactical Aviation, and Airborne Troops. About 150 are retained

<sup>42</sup> In view of the lack of evidence, no more precise estimate as to the numbers of short-range missiles and missile units can be made. As an assumption for planning purposes, we present below what we believe might be reasonable force goals to be achieved by the Soviets at some time within the next few years.

	SS-1 (75 n.m.)	SS-2 (200 n.m.)	SS-3 (350 n.m.)
Battalions*	60	30	15
Launchers per battalion	6	4	2
Missile stocks*	4,200	1,500	700

\* Probably organized into brigades of two or three battalions each.

\* Some of these missiles in units; majority in supply channels, and in rear area storage.

<sup>43</sup> The characteristics of these two missiles, together with estimated Soviet programs are discussed in paragraphs 27 and 28 of this Annex.

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in a headquarters unit to provide air support for the air forces headquarters and other elements of the Ministry of Defense.

81. Approximately 250 light transports of the CAB, COACH, and CRATE types and about 325 medium transports are assigned by Military Transport Aviation to support of Airborne Troops. Most of the medium transports are converted piston medium bombers, but there are about 200 CAMPs and CUBs, the new turboprops specifically designed for military transport use. Organic airlift capabilities are limited to about two airborne divisions in a single lift into peripheral areas, although this capability could be increased by the use of other military and civil transports. A lack of heavy drop capability and a shortage of assault aircraft have limited the Soviet airlift capabilities since World War II. These limitations, however, will be eased considerably by the further addition of new transports to the force. Soviet airlift capabilities could be augmented by about 350 jet and turboprop transports now in Civil Aviation; these include the CAMEL jet medium transport, the CAT and COOT turboprop medium transports, and a turboprop heavy transport, the CLEAT. Two new light transports, the TU-124 jet and the AN-24 turboprop, probably are now in production and could become operational next year.

#### Capabilities for Land Warfare

82. The Soviet armed forces have continuously developed and maintained capabilities for the conduct of large-scale invasions concurrently or separately of areas peripheral to the Communist Bloc such as: Western Europe, the exits of the Baltic and the Black Seas, Turkey, Greece, northern Norway, Iran, and areas in the Pacific. The current force reductions could reduce Soviet capabilities for concurrent large-scale invasions of peripheral areas without prior mobilization. However, Soviet capabilities for invasion of any given theater on the periphery or for limited military actions in these areas will not be impaired, but probably increased by improvement in Soviet mobility and firepower. Such campaigns would be supported by the avail-

able air and missile forces. Naval support would be available for operations in Bloc coastal areas in support of ground campaigns or airborne assaults. Amphibious assault capabilities are quite limited; the Soviets would have to rely almost entirely on merchant ships to meet the lift requirements of divisional-size units. Soviet capabilities to wage such campaigns would depend to a great extent upon direct Western opposition to advancing Soviet forces and Western interdiction of essential logistic lines. In a general war, Soviet capabilities to undertake such campaigns would depend upon the effects of an initial nuclear exchange.

#### Naval Forces

83. During the decade 1947-1957, Soviet naval forces were greatly strengthened by an intensive building program concentrated on light cruisers, destroyers, and submarines. We estimate active Soviet naval surface strength as of 1 October 1960 at 21 cruisers, 100 destroyers, and 66 destroyer escorts; in addition, there are three cruisers and 24 destroyers in inactive status. Ships listed as inactive are considered to be either at a reduced manning level or in a reserve status. Most of these ships are of postwar design and construction. They are grouped in four major forces: the Northern Fleet, located in the Barents Sea area; the Baltic Fleet; the Black Sea Fleet; and the Pacific Fleet, concentrated largely at Vladivostok.

84. The Soviet submarine force is the largest ever assembled by a single power in peacetime. The Soviet force, on 1 October 1960, comprised about 350 first-line and 70 second-line submarines. Previously, it was believed to consist largely of long-range ships capable of conducting intensive submarine warfare off both the east and west coasts of the US. However, recent reliable evidence on the fuel capacity of the "W" Class submarine indicates that its range is about one-third less than previously estimated. Thus, it now appears that the bulk of the Soviet submarine force could not be employed in waters near the continental US. The 220 "W" Class submarines continue to constitute a great threat to

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sea communications between the US and its allies in Europe and the Far East, and some could also be employed with refueling at sea in the Western Atlantic. However, the USSR has only about 45 submarines ("Z," "F," and "G" Classes) which, based in the USSR, would be capable of operations in US coastal waters without refueling at sea.

85. The equipment and operating efficiency of Soviet naval forces, while still below US standards in some fields, are quite high and should continue to improve. Between 50 and 70 percent of the Soviet submarine force is believed to be available for duty at any given time under peacetime conditions, the remainder being held in reserve or maintenance status. A strong defensive capability in the fleet operating areas can be inferred from naval exercises of the last several years, which have stressed defense of the sea approaches of the USSR. Soviet oceanographic research, more extensive than that of any other nation, has important applications in submarine operations and in antisubmarine warfare.

86. Recent trends in construction show a marked decline in building of larger surface ships, excepting guided missile destroyers, and an emphasis on small ASW and mine vessels, and small, high-speed, guided missile craft. The "Krupnyy" class guided missile destroyer commenced construction in late 1957 and is estimated to be building now at a rate of six per year. Cruiser construction was abruptly halted in 1955, and several uncompleted hulls left from that program have recently been scrapped. Construction programs for conventionally gunned destroyers and destroyer escorts were phased out in 1957-1958.

87. We believe that over the next year or so there will be substantial reductions in both the surface and submarine forces, effected by the scrapping of older units and the assignment of others to reserve or inactive status. While in the past there is no evidence that the Soviet Navy has placed any of its ships in mothball status, we believe that they may do so in the future with some ships retired from active duty, rather than scrapping them or retaining them in low-manned reserve sta-

tus. We estimate that the active surface fleet in mid-1962 will be at a strength of about 10 cruisers (mostly in the Northern and Pacific Fleets), about 100 modern destroyers, and about 50 destroyer escorts. About 10 additional cruisers and 30 destroyers and escorts will probably be maintained at a reduced manning level or in a reserve status. The submarine fleet will probably be stabilized at about 360 first-line ships, of which modern long-range submarines capable (without refueling at sea) of action off the US coasts will rise from about 45 in 1960 to about 100 by mid-1965. This latter figure could include about 35-40 nuclear-powered submarines.

88. We believe that Soviet Naval Aviation is now in the process of drastic reductions, reflecting a redefinition of its role. Before the reorganization of 1960 began, Naval Aviation had about 1,500 fighters, 400 light bombers, nearly 300 medium bombers, and about 650 miscellaneous other types including reconnaissance and trainers. We believe that naval fighter aviation has been eliminated through deactivation of units and some transfers to the IA-PVO. We believe that most of the jet light bomber and mine-torpedo units have recently been deactivated, and that the remainder also will be deactivated. However, a few reconnaissance units equipped with this type of aircraft may be retained. About 100 additional BADGER medium bombers have been transferred to Naval Aviation, and it is possible that some supersonic "dash" medium bombers will be introduced into Naval Aviation when they become available for operational use. The ASW role of Naval Aviation will receive greater emphasis and we believe the number of aircraft assigned for this purpose will increase.

89. Most of the naval BADGER units have been equipped with air-to-surface missiles designed primarily for use against ships. We believe that the few Long Range Aviation BADGER regiments which had been trained in this role have been transferred to Naval Aviation. The subsonic missile (AS-1) now employed by these units is capable of delivering a nuclear or HE warhead to a range of about 55 n.m. In about 1961 the Soviets

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probably will have available a transonic, 100 n.m. air-to-surface missile, also designed for antiship use, to supplement and later replace the current 55 n.m. missile.

#### Naval Weapons

90. *Naval Launched Missiles.* It is increasingly evident that the Soviet Navy's modernization program includes the addition of missiles to surface ship armament. (For discussion of guided missile submarines see paragraphs 29 and 30 of this Annex.) Two types of Soviet guided missile destroyers have been observed: the "Kildin" Class, modified to carry and launch such missiles, and the "Krupnyy" Class, specifically designed for this purpose. We estimate that by mid-1965 the USSR will have about 35 guided missile destroyers in service. Two types of cruise missiles are utilized, with speeds in the Mach 1 region and with effective ranges of about 30 n.m. against ships at sea. With the use of forward seaborne or airborne observation stations, the range of one (SS-8) could be increased to about 100-150 n.m. against ships or land targets, and the range of the other (SS-13) could be increased to 60-80 n.m. The Soviets are also constructing a new class of motor patrol craft which are equipped with guided missiles or free rockets. It is possible that some of the cruisers retained in service will be modified for adaptations of the destroyer-launched surface-to-surface systems. There is no evidence that Soviet ships have been equipped with surface-to-air missiles; however, we believe that the USSR could develop such a capability within the period of this estimate.

91. *Antisubmarine Warfare.* The Soviets tended to neglect antisubmarine warfare (ASW) for a number of years after the end of World War II. In recent years, the scope of ASW exercises has been enlarged, and there has been a steady improvement in ASW tactics and equipment. The Soviets have made a major effort in the construction of ASW ships, particularly small coastal types. In early 1959, a new class submarine chaser equipped with ASW rocket launchers was observed. A number of destroyers and de-

stroyer escorts also have been equipped with ASW rockets. There is also evidence that the Soviets are employing D/F and short-range shore-based detection equipment, air-launched sonobuoys, helicopters, and magnetic airborne detection equipment for ASW. The foregoing developments have considerably improved Soviet ASW capabilities, but they still appear to be directed primarily to operations in coastal waters.

92. Motivated by the threat from US missile-launching submarines, the USSR will almost certainly work to extend its ASW capability to submarines operating in open seas. The Soviet effort will probably include the construction of new antisubmarine ships and aircraft, as well as the development of improved detection systems, "killer" submarines, and more sophisticated ASW weapons. For example, we estimate that the USSR will probably develop a missile system (SS-10) for ASW; surface ship-launched and submarine-launched versions could probably become available for operational use during the period of this estimate. In addition, the Soviets will strive to increase reliable detection ranges and to improve the coordination among air, surface, and undersea forces. Nevertheless, we believe that over the next five years the USSR will have only a limited capability to detect, identify, localize, and maintain surveillance on submarines operating in open seas.

#### Submarine Programs

93. *Conventional.* The USSR will probably continue to place primary emphasis on submarines in its naval construction program. Since 1950, the Soviets have built about 300 submarines of the medium- and long-range types. Construction rates have declined sharply since the termination of "Z," "W," and "Q" Class programs of the early and mid-1950's. Of the two new types of Soviet conventional submarines in service, one is the "F" Class, a large, long-range ship with improved sonar equipment. The other, the "G" Class, is probably designed to carry and launch ballistic missiles. We believe that the Soviets will continue for the next year or two to construct a limited number of con-

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ventional submarines for employment in strategic attacks with ballistic missiles and possibly for antisubmarine warfare and operations against Allied sea communications.

94. *Nuclear.* Available evidence continues to support our belief that the USSR has an active program in the field of nuclear-powered submarines, but the present status of this program remains uncertain. Based on our knowledge of Soviet reactor technology, we estimate that late 1957 was the earliest date that a nuclear propulsion reactor for a submarine could have been available for installation, and that the Soviets could have had at least one nuclear submarine in a trial status by the end of 1958. Although there is still no firm evidence, we estimate that a few nuclear-powered submarines are now in operational units. On the basis of our belief that the Soviet Union will undertake a substantial construction program of nuclear boats, we estimate that the number of nuclear submarines in the fleet will probably reach about 13 by mid-1962, from which time an annual construction rate of about eight is believed to be within Soviet capabilities.

95. Of these submarines, the first few are estimated to be torpedo attack types, and we believe that the Soviets will have a continuing requirement for such submarines. Assuming an active program which would bring nuclear-powered missile submarines into operation in 1962 (see paragraph 30 of this Annex) we estimate that the USSR's mid-1965 strength in nuclear-powered submarines will comprise about 23 of the torpedo attack type and about 14 of the missile-launching type.

#### Capabilities for Naval Warfare

96. A grave threat to Allied naval forces and merchant shipping is posed by the Soviet submarine force, which could conduct intensive torpedo attack and mining operations against Allied sea communications. In addition, there is a growing threat to ports and other strategic land objectives from Soviet ballistic missile submarines. Soviet Naval Aviation could attack Allied naval forces, shipping, and port facilities within range. Although the

primary threat to Allied naval forces would come from Soviet submarines and aircraft, the surface navy has an extensive minelaying capability and is trained and equipped to oppose attacking forces which approach Soviet shores. The arming of destroyers and other types with surface-to-surface missiles has significantly increased the capabilities of the Soviet surface navy.

97. The principal naval weaknesses of the USSR are its inability to control the sea routes between its widely separated fleets and its inability to project its surface forces for offensive operations at great distance from Soviet shores. The lack of adequate supply lines to Northern and Far Eastern fleet areas and the land-locked position of fleets in the Baltic and Black Seas are additional handicaps.

#### SPECIAL WEAPON DEVELOPMENTS

##### Nuclear Weapons "

98. The 74 Soviet nuclear tests detected since August 1949 have reflected the development of nuclear weapons to meet a wide variety of military requirements. The last Soviet test series, conducted during 1958, included [ ] thermonuclear devices ranging in yield from [ ]

The weapon designs tested in 1958 could now be stockpiled in significant quantities. We estimate that only marginal improvements will be made in future weapons unless nuclear testing is resumed. However, the Soviets now have available a wide spectrum of fission and thermonuclear weapons which is probably adequate to meet their basic military requirements. We estimate that at present the Soviet stockpile probably includes nuclear weapons in the range of tested yields, [ ]

In addition, this stockpile might include untested weapons with yields as large as 18 MT.

99. There is insufficient evidence to support a firm estimate of the numbers and types of nuclear weapons in the Soviet stockpile. We

"For a more detailed discussion, see NIE 11-2-60, "The Soviet Atomic Energy Program," dated 21 June 1960 (Limited Distribution).

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believe that the USSR has sufficient nuclear weapons to support massive nuclear attacks against targets in North America and Eurasia by its long-range striking forces. The size and nature of the materials stockpile imposes limitations on the numbers of weapons available for other air, ground, and naval operations. However, we consider it unlikely that the availability of fissionable materials for nuclear weapons is a factor which in itself significantly limits Soviet policy. We have estimated a considerable growth in the Soviet fissionable materials stockpile over the next few years, which should keep pace with the estimated growth in Soviet long-range attack capabilities as well as easing the present limitations on other military uses.

#### Chemical and Biological Warfare

100. The Soviet Union is believed to be well prepared to use chemical warfare on a large scale. Soviet military forces receive training in the offensive use of CW as well as in defense against it. The amount of toxic agents currently produced in the USSR and the size and disposition of the Soviet stockpile are not known, but are believed to be substantial. At least half of the stockpile probably consists of nerve agents, principally Tabun (GA), a smaller quantity of Sarin (GB), and some of the far more persistent and toxic agents of the V-type. We believe that further development could produce only small increases in the toxicity of known agents, and that some research probably is being directed towards development of new lethal agents. The Soviets are also aware of the capabilities of new nonlethal incapacitating agents, such as lysergic acid derivatives, and we believe that they could have at least one such incapacitating agent ready for field use within the period of this estimate.

101. The Soviets have developed aerosol devices for disseminating CW agents from aircraft as well as in artillery shells and short-range rockets, and it is within their technical capabilities to employ such agents in the warheads of ballistic missiles. Tactical requirements might dictate that CW warheads be provided for some portion of Soviet bal-

listic missiles with maximum ranges up to 350 n.m. It is possible that CW might be used in the 700 n.m. SS-4 for certain limited purposes.

102. There is insufficient direct evidence on which to base a firm assessment of Soviet BW offensive activities. Nevertheless, on the weight of considerable indirect evidence and information on what we believe to be a field test site, we estimate that a BW research and development program is underway in the USSR which probably encompasses both offensive and defensive aspects. However, the current tempo of testing activity is uncertain. The Soviet program probably includes research on antipersonnel, antilivestock, and possibly anticrop agents, but no BW agent intended for use by the Soviets has been firmly identified. There is no evidence of the existence of a mass-production facility for BW agents, but existing plants for the production of biologicals, together with other laboratories, could easily produce biological warfare agents in quantities sufficient for clandestine employment and probably for use on a larger scale.

#### Electromagnetic Warfare

103. At present the USSR has an appreciable capability for jamming Western radars at frequencies up to 10,000 mc/s and possibly higher, and especially for jamming at lower frequencies normally used in Western long-range radio communications. The Soviets are now producing magnetrons and traveling wave tubes suitable for jamming in the microwave frequencies, and research in this field is continuing. They are also currently employing passive detection equipment believed capable of detecting signals from the very low frequencies up into the microwave spectrum. Within the period of this estimate, we believe that the USSR will have in operational use equipment capable of jamming all frequencies likely to be employed by Western communications, radar, and navigation equipment. There is no evidence that the Soviets have conducted high-altitude nuclear explosions to test communications jamming effect, but they are certainly aware of

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the potential value of such a countermeasure.

104. The Soviets probably are continuing research on radar camouflage techniques, including antiradar coating and the reduction of radar cross-sections of both aircraft and missiles. They are unlikely to develop successful operational camouflage for aircraft in the period of this estimate, but they may achieve a significant reduction in the radar cross-sections of the missiles by the end of the period. They are also known to have em-

ployed electronic deception against Western aircraft. This has included simulation of Western navigational aids in border regions which has led Western aircraft off course and, on occasion, over Bloc territory. A trend toward greater frequency diversification in Soviet electronic equipment has been noted, and improved antijamming techniques are probably being incorporated into the latest equipment. However, through 1965 Soviet electronic systems will probably still be subject to disruption by properly employed techniques.

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## ANNEX B

TABLES OF SINO-SOVIET BLOC MILITARY STRENGTHS  
AND CHARACTERISTICS OF SELECTED  
WEAPONS AND EQUIPMENT

- Table 1 Estimated Personnel Strengths of the Soviet Armed Forces, 1 January 1960 and 1 July 1962
- Table 2 Estimated Military Personnel Strength of European Satellites and Asian Communist Forces, 1 October 1960
- Table 3 Estimated Strength of Soviet Ground Forces in Line Divisions, 1 January 1960 to Mid-1962
- Table 4 Estimated Strength in Line Divisions of European Satellite and Asian Communist Ground Forces, 1 October 1960
- Table 5 Estimated Strength of Bloc Air Units, 1960 to 1965
- Table 6 Estimated Soviet Aircraft Strength by Role Within Major Components, 1 October 1960
- Table 7 Estimated Performance of Soviet Light Bomber Aircraft
- Table 8 Estimated Performance of Soviet Transport Aircraft
- Table 9 Estimated Performance of Soviet Helicopters
- Table 10 Estimated Bloc Surface Naval Strengths, 1960 to 1965
- Table 11 Estimated Bloc Submarine Strengths, 1960 to 1965
- Table 12 Estimated Characteristics and Performance of Soviet Postwar Submarines
- Table 13 Estimated Sino-Soviet Bloc Merchant Fleet Strength, 1960-1965

NOTE: Detailed tables on missile characteristics appear in NIE 11-5-60, "Soviet Capabilities in Guided Missiles and Space Vehicles," dated 3 May 1960 (TOP SECRET). Tables on the characteristics and strengths of Bloc air defense weapons and equipment appear in NIE 11-3-60, "Sino-Soviet Air Defense Capabilities Through Mid-1965," dated 29 March 1960 (TOP SECRET). Characteristics of Soviet medium and heavy bombers appear in NIE 11-8-60, "Soviet Capabilities for Strategic Attack Through Mid-1965," dated 1 August 1960 (TOP SECRET).

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TABLE 1  
ESTIMATED PERSONNEL STRENGTHS OF THE SOVIET ARMED FORCES

	1 JANUARY 1960	1 JULY 1962 *
Ministry of Defense .....	70,000	65,000
Headquarters .....	35,000	25,000
Research and Development <sup>b</sup> .....	35,000	40,000
Theater Field Forces .....	2,445,000	1,530,000
Ground Forces, Field .....	2,250,000	1,455,000
Tactical Aviation .....	195,000	65,000
Air Defense Forces .....	365,000	305,000
Surface-to-Air Missiles .....	60,000	85,000
Antiaircraft Artillery (Gun) .....	100,000	20,000
Fighter Aviation of Air Defense .....	125,000	115,000
Warning and Control .....	80,000	85,000
Long Range Attack Forces .....	85,000	* 100,000
Long Range Aviation .....	70,000	50,000
Surface-to-Surface Missiles (SS-4, 5, and 6) .....	15,000	50,000
Naval Forces (excl. personnel counted elsewhere) .....	495,000	320,000
Forces Afloat .....	185,000	150,000
Shore Establishment .....	230,000	140,000
Naval Aviation .....	80,000	30,000
Military Transport Aviation .....	55,000	60,000
Preoperational Aviation Training .....	110,000	70,000
TOTAL .....	3,625,000	2,450,000
Security Forces (not incl. in total) .....	250,000	200,000
Border Troops .....	150,000	140,000
Internal Troops .....	100,000	60,000

\* This estimate of personnel strengths of the various elements of the Soviet armed forces in mid-1962 is an approximation based on projected order of battle. In view of the tentative nature of these force projections, the personnel strengths are more an indicator of trends and orders of magnitude than of a precise detailed distribution of military manpower.

There are at present a substantial but unknown number of civilians working for the Soviet military establishment. There is evidence that some functions previously performed by military personnel have in the course of reductions in recent years come increasingly to be filled by civilian employees, particularly in construction and other logistical activity. We believe that this trend will be intensified during current reductions in active military personnel.

<sup>b</sup> Military scientific research and development in the USSR is largely conducted by civilian agencies, in particular the Academy of Sciences, the State Committees for Defense Technology, Aviation Technology, Scientific-Technical Matters, Radio-Electronics, and Shipbuilding, and by the Ministry of Medium Machine Building (nuclear weapons). The numbers of active duty military personnel estimated here are those primarily subordinate to the Ministry of Defense and at missile test ranges, in electronics, nuclear development, and aviation technology. Other military personnel in R&D and allied functions are counted in other categories.

\* Based on his estimates of projected order of battle, the Assistant Chief of Staff, Intelligence, USAF, believes that personnel strength for Long Range Aviation in mid-1962 should be 65,000, and for these missile forces should be 70,000.

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TABLE 2

ESTIMATED MILITARY PERSONNEL STRENGTH OF EUROPEAN SATELLITE AND ASIAN  
COMMUNIST FORCES, 1 OCTOBER 1960 \*

	ARMY GROUND FORCES	AIR FORCES	NAVAL FORCES	MILITARIZED SECURITY FORCES	TOTALS (Excluding Security)
<i>EE Satellites (Rounded Totals)</i> .....	850,000	80,000	45,000	280,000	975,000
Albania.....	25,000	1,500	1,500	10,000	28,000
Bulgaria.....	110,000	10,500	6,200	35,000	126,700
Czechoslovakia.....	155,000	20,000	.....	45,000	175,000
East Germany.....	75,000	6,000	11,000	50,000	92,000
Hungary.....	100,000	3,000	.....	35,000	103,000
Poland.....	185,000	<sup>b</sup> 29,000	15,000	45,000	229,000
Rumania.....	200,000	10,500	11,000	60,000	221,500
<i>Communist Asia (Rounded Totals)</i> .....	3,275,000	100,000	75,000	50,000	3,450,000
Communist China.....	2,680,000	<sup>b</sup> 82,500	65,000	.....	2,827,500
North Korea.....	325,000	20,000	7,000	15,000	353,000
North Vietnam.....	270,000	450	1,800	35,000	272,250
<b>GRAND TOTALS</b> .....	<b>4,125,000</b>	<b>180,000</b>	<b>120,000</b>	<b>330,000</b>	<b>4,425,000</b>

\* Figures in this table are based on estimated order of battle.

<sup>b</sup> Includes naval aviation.

\* Public security forces (totaling 200,000 men), which are subordinate to the Ministry of National Defense, are included in the ground force total.

TABLE 3

ESTIMATED STRENGTH OF SOVIET GROUND FORCES IN LINE DIVISIONS,  
1 JANUARY 1960 AND MID-1962 \*

MANNING LEVEL	RIFLE DIVISIONS			MOTORIZED RIFLE AND MECHANIZED DIVISIONS			TANK DIVISIONS			AIRBORNE DIVISIONS			TOTALS
	No.	TO/E	Actual	No.	TO/E	Actual	No.	TO/E	Actual	No.	TO/E	Actual	
1 January 1960 <sup>b</sup> ..													
Combat													
Ready.....	13	13,335	8,950	57	13,150	9,920	22	10,630	8,670	8	9,000	6,760	100
Low													
Strength....	45	.....	4,000	21	.....	5,925	2	.....	4,250	2	.....	3,600	70
													170
Mid-1962													
Combat													
Ready.....				35	13,150	9,200	20	10,630	8,500	10	9,000	6,300	65
Cadre.....				55	.....	2,630	5	.....	2,125	0	.....	.....	60
													125

\* There is insufficient information at this time to provide the basis for an estimate of the number of Soviet divisions and other units which may have been demobilized during 1960. However, we believe that this process of demobilization now underway has reduced the total number of units, and has reduced the strength of some of those remaining. This table presents estimated strengths for 1 January 1960, before force reductions had begun, and for mid-1962, when they should be completed. The latter estimate is intended only to indicate an order of magnitude and should be considered as tentative. If the Soviets adopted higher manning levels, the number of divisions would probably be lower.

<sup>b</sup> As of 1 January 1960, 168 of the 170 Soviet line divisions currently accepted had been reidentified during the previous 3-year period. Additional Soviet combat units included 16 artillery divisions, and a substantial number of separate artillery, antiaircraft artillery, antitank, and rocket artillery brigades and regiments as well as other combat support units.

\* Estimated dispositions of Soviet line divisions: northwestern USSR, 10; western USSR, 52; southwestern USSR, 20; southern USSR, 23; central USSR, 11; Soviet Far East, 28; Occupied Europe, 26 (East Germany, 20; Poland, 2; Hungary, 4).

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TABLE 4

ESTIMATED STRENGTH IN LINE DIVISIONS OF EUROPEAN SATELLITE AND ASIAN COMMUNIST GROUND FORCES, 1 OCTOBER 1960

COUNTRY	RIFLE DIVISION			MOTORIZED RIFLE MECHANIZED DIVISIONS			TANK DIVISION			AIRBORNE DIVISION			TOTAL
	No.	TO/E	Actual	No.	TO/E	Actual	No.	TO/E	Actual	No.	TO/E	Actual	
EE SATELLITES													
Bulgaria.....	7	11,500	5,570	..	..	..	..	..	..	..	..	..	7
Czechoslovakia.....	..	..	..	11	13,000	6,000	3	10,500	5,000	..	..	..	14
East Germany.....	..	..	..	4	13,000	7,000	2	10,500	6,000	..	..	..	6
Hungary.....	..	..	..	5	13,000	7,000	..	..	..	..	..	..	5
Poland.....	..	..	..	9	13,000	8,550	4	10,500	7,000	1	Unk	5,000	14
Rumania.....	10	11,500	7,900	1	14,000	8,500	1	10,500	7,000	..	..	..	12
COMMUNIST ASIA													
Communist China.....	115	17,600	* 15,000	..	..	..	3	7,800	0,600	3	8,300	7,000	* 121
North Korea.....	18	10,700	9,800	..	..	..	1	Unk	Unk	..	..	..	19
North Vietnam.....	14	12,500	10,000	..	..	..	..	..	..	..	..	..	14
TOTALS	164			30			14			4			* 212

\* It is estimated that 67 of the Chinese Communist rifle divisions have an actual strength of 15,000 and that actual strength of the remaining 48 divisions ranges from 6,000 to 14,000.

\* In addition Chinese Communist forces include three small cavalry divisions.

\* Estimated breakdown by major groupings: Communist China, 124; European Satellites, 58; North Korea and North Vietnam, 33.

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TABLE 5  
ESTIMATED STRENGTH OF BLOC AIR UNITS, 1960 TO 1965

	1 JAN 1960 USSR	1 Oct 1960			Mid- 1961 USSR	Mid- 1962 USSR	Mid-1963			Mid- 1964 USSR	Mid-1965		
		USSR	E.E. Sat.	Asian Comm.			USSR	E.E. Sat.	Asian Comm.		USSR	E.E. Sat.	Asian Comm.
FIGHTER													
Jet.....	10,300	7,150	2,000	2,150	6,400	6,000	5,700	2,000	2,850	5,000	4,000	2,000	2,950
ATTACK													
Jet (Ftr).....	200		150	180									
Prop.....			60	40									
LIGHT BOMBER													
Jet.....	2,465	800	135	520	500	400	250	115	375			100	300
Prop.....				175									
MEDIUM BOMBER/TANKER <sup>b</sup>													
Jet.....	1,480	1,415			1,375	1,250	1,250			1,225	1,175		
Prop.....				20					15				10
HEAVY BOMBER/TANKER <sup>b</sup>													
Jet & Turboprop.....	125	135			150	140	130			120	100		
TRANSPORT													
Jet (Med).....	2	2			15	20	20	15	10	25	30	30	20
Prop (Lt).....	1,550	1,480	120	180	1,500	1,350	1,200	135	215	1,050	850	140	250
Prop (Med).....	400	450		2	500	650	800	10	10	975	1,150	30	30
HELICOPTER <sup>d</sup>													
Light.....	350	380	40	65	460	600	760	60	100	900	1,000	70	120
Med.....	30	50			75	100	150			200	250		
RECONNAISSANCE													
Jet (Ftr).....	100	90	100					70				70	
Jet (Med Bmr).....	30	70			75	75	75			75	75		
Jet (Lt Bmr).....	450	300	35		300	250	200	40	50	200	150	40	50
Prop.....			60										
ASW (Prop).....	110	110		10	115	125	140		30	165	175		40
UTILITY/LIAISON													
Jet (Med Bmr).....		25			25	25	25						
Jet (Lt Bmr).....	100	60			20								
TRAINER													
Jet (Ftr).....	730	470	200	150	425	400	375	200	200	325	250	150	200
TOTALS (rounded).....	18,450	13,000	2,900	3,500	11,900	11,400	11,100	2,650	3,850	10,300	9,200	2,650	4,000

See footnotes on next page.

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- The Assistant Chief of Staff, Intelligence, USAF, believes that the Eastern European Satellites will have a fighter force numbering 2,960 in mid-1963 and 3,210 in mid-1965.
- The Assistant Chief of Staff, Intelligence, USAF, believes that the numbers of Soviet medium and heavy bombers should be as follows:

	1 Oct 1960	Mid- 1961	Mid- 1962	Mid- 1963	Mid- 1964	Mid- 1965
MEDIUM/BOMBER/TANKER						
Jet.....	1,400	1,550	1,550	1,530	1,480	1,430
HEAVY/BOMBER/TANKER						
Jet and Turboprop.....	150	175	200	200	*200	*200

- \* Including 2-5 nuclear-powered aircraft in 1964 and 5-10 nuclear-powered aircraft in 1965.
- Depending upon the trend of political relations between the USSR and Communist China, the Soviets may provide some jet medium bombers, or the technical knowledge necessary for the Chinese Communists to build medium bombers, during the period of this estimate. The Assistant Chief of Staff, Intelligence, USAF, believes that, in view of the fact that a production facility is now in an advanced stage of construction, given continued Soviet assistance the Chinese Communists will have about two jet medium bombers in mid-1962, 25 in mid-1963, 65 in mid-1964, and 115 in mid-1965.
- In addition to the types listed in this table, it is estimated that the USSR has considerably more than a thousand small helicopters in service. Because of their varied uses—reconnaissance, antisubmarine warfare, and general utility purposes—these probably will enter service in substantially larger numbers during the period of this estimate. The USSR has also developed heavy helicopters which may be assigned to military units during the period of this estimate.
- The Assistant Chief of Staff, Intelligence, USAF, believes that a small number of medium bombers—say 75 to 100—would be trained and equipped for an additional reconnaissance role, but these are included in his projected estimates of medium bombers given in footnote <sup>b</sup> above.

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TABLE 6  
ESTIMATED SOVIET AIRCRAFT STRENGTH BY ROLE WITHIN MAJOR COMPONENTS,  
1 OCTOBER 1960

	LONG RANGE AVIATION	FIGHTER AVIATION OF AIR DEFENSE	TACTICAL AVIATION	NAVAL AVIATION	MILITARY TRANS- PORT AVIA- TION *	TOTAL
<b>FIGHTER</b>						
Jet.....	.....	4,550	2,600	.....	.....	7,150
<b>LIGHT BOMBER</b>						
Jet.....	.....	.....	700	100	.....	800
<b>MEDIUM BOMBER/TANKER</b>						
Jet.....	1,000	.....	75	340	.....	1,415
<b>HEAVY BOMBER/TANKER</b>	135	.....	.....	.....	.....	135
<b>TRANSPORT *</b>						
Jet (Med).....	.....	.....	.....	.....	2	2
Prop (Lt).....	(200)	(200)	(580)	110	1,370	1,480
Prop (Med).....	(70)	.....	.....	.....	450	450
<b>HELICOPTER</b>						
Light.....	.....	.....	55	135	190	380
Medium.....	.....	.....	.....	.....	50	50
<b>RECONNAISSANCE</b>						
Jet (Ftr).....	.....	.....	90	.....	.....	90
Jet (Lt Bmr).....	.....	.....	240	60	.....	300
Jet (Med Bmr).....	30	.....	.....	40	.....	70
Prop (Scaph).....	.....	.....	.....	110	.....	110
<b>UTILITY/LIAISON</b>						
Jet (Med Bmr).....	.....	25	.....	.....	.....	25
Jet (Lt Bmr).....	.....	10	50	.....	.....	60
<b>TRAINER</b>						
Jet (Ftr).....	.....	300	170	.....	.....	470
<b>TOTALS (rounded)</b>	1,150	4,900	4,000	900	2,050	13,000

- \* In addition to military transports, the Civil Air Fleet has about 1,900 aircraft, including 10 heavy turboprops and about 350 medium jets and turboprops.
- \* The Assistant Chief of Staff, Intelligence, USAF, believes that as of 1 October 1960 there were 120 medium bombers in Tactical Aviation and 150 heavy bomber/tankers in Long Range Aviation.
- \* The transport figures in parentheses are not included in the totals of the component under which they are listed; they are included in the Military Transport Aviation column. In addition to the allocations made to Long Range Aviation, Air Defense, and Tactical Aviation, about 250 light transports and 375 mediums are believed to be assigned to support of Airborne Troops. The remainder (about 150 light transport aircraft) are believed to be assigned to headquarters transport units in Moscow.

TABLE 7  
ESTIMATED PERFORMANCE OF SOVIET LIGHT BOMBER AIRCRAFT (OPTIMUM MISSION PROFILE)

	BEAGLE	MADGE	1960 MADGE TURBOPROP
Combat Radius/Range (min).....	740/1,400	1,150/2,100	700/2,000
Bombload (lbs).....	4,400	8,800	4,400
Maximum Speed at Optimum Alt. (kts/ft).....	465/15,000	195/1,000	275/5,000
Target Speed/Target Alt. (kts/ft).....	385/39,000	195/1,500	250/1,500
Combat Ceiling (ft).....	43,800	19,500	20,000

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TABLE 8

ESTIMATED PERFORMANCE OF SOVIET TRANSPORT AIRCRAFT •  
(Calculated in accordance with US Mil C-5011A)

AIRCRAFT	OPERATIONAL DATE	SOVIET DESIGNATION	POWER PLANTS		PAYLOAD			COMBAT RADIUS/RANGE (NM)	SPEED/OPERATIONAL ALTITUDE * (KTS/FT)	CRUISE SPEED ALTITUDE <sup>b</sup> (KTS/FT)	SERVICE CEILING
			Number	Type	Troops	Passengers	Lbs.				
CAB <sup>b</sup> .....	1939	Li-2	2	Piston.....	20	15	3,300	535/1,175	165/5,000	130/13,000	16,600
COACH.....	1947	Il-12	2	Piston.....	21	18	5,000	665/1,335	220/10,000	165/10,000	26,600
CRATE.....	1954	Il-14	2	Piston.....	21	18	4,600	710/1,580	230/10,000	140/10,000	24,000
CAMEL <sup>c</sup> .....	1957	Tu-104a	2	Turbojet.....	110	70	18,740	1,100/2,300	580/SL	450/37,000	45,000
BULL TYPE <sup>d</sup> .....	1956	.....	4	Piston.....	42	.....	26,000	1,670/3,150	300/20,000	235/10,000	39,500
CAMP.....	1959	An-8	2	Turboprop.....	60	.....	17,000	735/1,450	280/17,000	230/20,000	36,600
CAT.....	1959	An-10	4	Turboprop.....	125	100	30,000	670/1,300	400/28,000	300/25,000	42,600
CUB <sup>e</sup> .....	1959	An-12	4	Turboprop.....	90	.....	.....	.....	.....	.....	.....
COOT.....	1959	Il-18	4	Turboprop.....	110	75	25,400	1,540/2,890	405/25,000	340/25,000	39,700
CLEAT.....	1959	Tu-114	4	Turboprop.....	248	120	29,000	2,690/5,360	485/25,000	390/30,000	41,000
.....	1961	An-24	2	Turboprop.....	.....	42 (max)	.....	...../650	380/.....	270/19-26,000	.....
.....	1961	Tu-124	2	Turbofan.....	.....	68 (max)	.....	...../810	540/.....	485/32,500	.....

- <sup>a</sup> In addition to the aircraft listed on this table, we continue to estimate that the Soviets could, within the next two years, bring into service a heavy turbojet transport comparable to the Boeing 707.
- <sup>b</sup> Soviet version of DC-3.
- <sup>c</sup> The original CAMEL (Tu-104), a transport design based on the BADGER (Tu-16), has payload and performance characteristics somewhat inferior to those of the Tu-104a noted above. The latest modification of this aircraft, the Tu-104b, has about the same characteristics as the Tu-104a, but can carry a larger payload.
- <sup>d</sup> BULL (Tu-4), a medium bomber of the B-29 type, modified for use as a transport.
- <sup>e</sup> CUB is a military version of CAT (An-10) with rear loading doors. Performance characteristics are believed to be generally similar to those of the CAT.
- <sup>f</sup> The operational date and characteristics given for these new light transports are based on Soviet sources and have not yet been confirmed by US intelligence.
- <sup>g</sup> Normal rated power.
- <sup>h</sup> Constant altitude mission.

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TABLE 9  
ESTIMATED PERFORMANCE OF SOVIET HELICOPTERS

AIRCRAFT	HEN	HOG	HARE	HOUND	HORSE	HOOK
Operational Date.....	1958	1959	1951	1953	1958	1960
Soviet Designation.....	Ka-15	Ka-18	Mi-1	Mi-4	Yak-24	Mi-6
Power Plant.....	AI-14V	AI-14V	AI-26V	ASh-82V	ASh-82V	TV-2VM
Number.....	1	1	1	1	2	2
Type.....	Piston	Piston	Piston	Piston	Piston	Turbine
Radius/Range (n.m.).....	105/230	110/240	85/210	120/240	65/135	120/250
Payload						
Troops.....	1	3	2	11	40	80
Cargo (lbs).....	200	440	350	3,200	8,800	20,000
Maximum Speed (kts at Sea						
Level.....	85	85	100	110	110	140
Cruise Speed/Altitude (kts/ft).....	65/5,000	65/5,000	75/5,000	75/5,000	85/5,000	110/5,000
Service Ceiling (ft).....	11,500	11,500	16,400	18,000	13,500	16,000

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TABLE 10  
ESTIMATED BLOC SURFACE NAVAL STRENGTHS, 1960 TO 1965 \*

		1 OCTOBER 1960										MID-1961	MID-1962	MID-1963			MID-1964	MID-1965			
Fleet Areas	North-ern	Baltic		Black Sea		Pacific		Total All Fleets													
Country	USSR	USSR	Sat.	USSR	Sat.	USSR	Com. China	USSR	Sat.	Com. China	USSR	USSR	USSR	Sat.	Com. China	USSR	USSR	Sat.	Com. China		
Old Heavy Cruisers.....	1	..	..	1	..	1	..	3	..	..	3	..	..	..	..	..	..	..	..		
Light Cruisers.....	5	5	..	5	..	3	..	18	..	..	18	10	10	..	..	10	10	..	..		
Guided Missile De- stroyers.....	2	1	..	2	..	1	..	6	..	..	12	18	24	..	..	30	36	..	..		
Destroyers.....	26	22	3	10	1	22	4	89	4	4	89	87	85	4	6	83	83	4	8		
Old Destroyers.....	1	3	..	..	4	..	..	4	4	..	4	..	..	2	..	..	..	2	..		
Destroyer Escorts.....	20	13	4	14	2	19	4	66	6	4	66	54	50	6	4	50	50	6	4		
TOTAL.....	55	44	7	41	7	46	8	186	14	8	192	169	169	12	10	173	179	12	12		

ESTIMATED INACTIVE SOVIET SURFACE NAVAL STRENGTHS, 1960 TO 1965 \*

	1 OCT. 1960	MID-1961	MID-1962	MID-1963	MID-1964	MID-1965
Old Heavy Cruiser .....	2	2	4	2	0	0
Light Cruisers .....	1	1	8	8	8	8
Destroyers.....	15	15	17	17	17	17
Old Destroyers .....	9	9	6	6	6	6
Destroyers Escorts .....	0	0	8	8	8	8
TOTAL.....	27	27	43	41	39	39
GRAND TOTAL SOVIET SHIPS (ACTIVE and INACTIVE).....	213	219	212	210	212	218

\* Estimates of future strengths have taken into account the scheduled deliveries of 1 light cruiser, 4 destroyers, and 8 destroyer escorts to Indonesia; they do not make allowance for possible additional transfers to other satellite or neutral states during the period of this estimate. In addition to the major surface ships listed, Soviet naval strength on 1 October 1960 is also estimated to include 1,200 auxiliary and amphibious craft and 1,600 minor surface ships (mine-craft, patrol craft, and service craft). These numbers will probably be reduced in the 1961-1962 period by the retirement of some older units, and some auxiliaries may be manned by civilians. The satellites and Communist China possessed about 600 minor surface ships on 1 October 1960.

\* Ships listed as inactive are considered to be either at a reduced manning level or in a reserve status.

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TABLE 11

ESTIMATED BLOC SUBMARINE STRENGTHS, 1960 TO 1965

1 OCTOBER 1960																					
Fleet Area	North-ern	Baltic		Black Sea		Med-iter-ranean (Al-bania)	Pacific		Total All Fleets			MID-1961	MID-1962	MID-1963			MID-1964	MID-1965			
Country	USSR	USSR	Sat.	USSR	Sat.	USSR	USSR	Com. China	USSR	Sat.	Com. China	USSR	USSR	USSR	Sat.	Com. China	USSR	USSR	Sat.	Com. China	
FIRST LINE •																					
Long Range (Z, F).....	16	7	..	..	..	..	8	..	31	..	..	34	40	40	..	..	40	40	..	..	
Long Range (W) •.....	34	30	..	• 46	2	12	48	17	220	2	17	220	218	216	2	35	216	212	2	48	
Medium Range (Q) ..	..	30	..	..	..	..	..	..	30	..	..	30	30	30	..	..	30	30	..	..	
Short Range (M-V).....	..	25	6	4	3	..	19	4	48	9	4	48	41	33	9	4	17	12	..	..	
Guided Missile (Conven-tional G and convert-ed Z) •.....	10	..	..	..	..	..	6	..	16	..	..	20	24	24	..	..	24	24	..	..	
Guided Missile (Nuclear)...	..	..	..	..	..	..	..	..	..	..	..	..	2	6	..	..	10	14	..	..	
Nuclear Torpedo.....	3	..	..	..	..	..	..	..	3	..	..	7	11	15	..	..	19	23	..	..	
Total.....	113	92	6	50	5	12	81	21	348	11	21	359	366	366	11	39	356	355	2	48	
SECOND LINE ••																					
Long Range	27	2	..	• 1	..	..	11	4	41	..	4	6	..	..	..	..	..	..	..	..	
Medium Range	..	10	1	..	..	..	..	..	10	1	..	..	..	..	1	..	..	..	..	..	
Short Range	1	..	..	13	3	..	4	..	18	3	..	..	..	..	..	..	..	9	4	..	
GRAND TOTAL.....																					
	141	104	7	64	8	12	96	25	417	15	25	365	366	366	12	39	356	355	11	52	

See footnotes on next page.

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- First line units are those of modern construction capable of effective operations in modern submarine warfare. Second line units, by virtue of age and design, are not considered to have operational effectiveness for modern undersea warfare.
- Although new evidence has led to a reduction of about one-third in the estimated range capability of the "W" Class, it still meets the arbitrary criteria for classification as a "long-range" submarine. However, because of the differences in the capabilities of this submarine, on the one hand, and the "Z" and "F" Class submarines, on the other, it is listed separately on this table. (See Table 12 and paragraph 84, Annex A.)
- Includes three "W" Class and one old long-range submarine stationed in the Caspian Sea.
- The "G" Class is a conventionally powered ship which has been evaluated as a probable ballistic missile launching submarine. Throughout this table, there are six converted "Z" missile-launching submarines.
- It is possible that the Soviets have elected to equip nuclear submarines with surface-launched missiles of the type and range (not greater than 350 n.m.) attributed to the "Z" and "G" Classes. If this is the case, a few Soviet nuclear-powered missile submarines could be operational within the next year.
- Although there is still no firm evidence of assignment of nuclear submarines to operational service, the existence of a number of such submarines in the Northern Fleet area has been reported, and we estimate that a few are now in operational units.
- Some of the second-line submarines dropped from the active fleet will probably be retained in an inactive reserve status rather than being scrapped. The Assistant Chief of Naval Operations (Intelligence), Department of the Navy, believes that about 40 of the second-line submarines will be retained in this category.

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TABLE 12

## ESTIMATED CHARACTERISTICS AND PERFORMANCE OF SOVIET POSTWAR SUBMARINES \*

CLASS	LENGTH/ BEAM (FT)	DISPLACE- MENT (TONS) SURFACED/ SUBMERGED	DIVING LIMIT (FT)	ARMAMENT TORPEDO/ MINE/ MISSILE	PERFORMANCE-SPEED (KTS)/ENDURANCE (NM) SURFACED SNORKELING SUBMERGED				WARTIME OPERA- TIONAL RADII (NM)/ DAYS ON STATION <sup>b</sup>
"F" (Long Range).....	296/27	1,950/2,400	750	24/40/0	Maximum.....	18.4/5,750	7.5/10,100	15/15	5,100/1
					Cruising.....	10.3/17,500	.....	2/350	4,900/10
"Z" (Long Range) *.....	296/27	1,950/2,400	650	24/40/0	Maximum.....	18.4/5,750	7.5/10,100	15/15	5,100/1
					Cruising.....	10.3/17,500	.....	2/350	4,900/10
"W" (Long Range) <sup>d</sup> .....	247/20	1,030/1,320	650	12/13/0	Maximum.....	13.5/2,750	6.5/6,450	13.5/13.5	2,900/1
					Cruising.....	10/8,500	.....	2/350	2,500/10
"Q" (Medium Range) *.....	185/18	570/695	450	8/12/0	Maximum.....	16.5/1,750	6.5/3,650	20/20 plus	1,200/1
								15/135 <sup>e</sup>	
					Cruising.....	10/4,850	.....	8.5/390 plus	1,000/10
								2.5/300 <sup>e</sup>	

\* There is insufficient evidence available on which to base an estimate of characteristics and performance of the "G" Class. It is believed, however, that "G" Class submarines are at least as large, and in all probability larger, than "Z" Class submarines. Available reports indicate it is propelled by conventional diesel power. The "G" Class is estimated to be armed with 3 or 4 ballistic missiles carried in and launched from vertical tubes located in the huge sail. No data are available on characteristics and performance of Soviet nuclear-powered submarines.

<sup>b</sup> These radii are based upon the following arbitrary patrol conditions: each day of transit consists of 12 hours of surface running at cruising speeds during hours of twilight and darkness and 12 hours of snorkel running during the day at snorkel speed.

<sup>c</sup> About 6 "Z" Class submarines have been modified (by enlarging the sail) to carry and launch two ballistic missiles each. In other respects their performance and characteristics are believed to be about the same as the standard "Z" Class.

<sup>d</sup> New intelligence on the "W" Class submarine has led to a reduction of about one-third estimated range capability from that estimated in NIE 11-4-59 (see Annex A, paragraph 84).

<sup>e</sup> It is currently estimated the "Q" Class has a single diesel engine designed for both open-cycle and closed-cycle operation. Liquid oxygen (LOX) is believed used as the oxidizing agent for closed-cycle operation. Performance and speed characteristics and operational radii reflect this closed-cycle capability.

<sup>f</sup> Assuming an initial spurt on both electric and diesel power followed by maximum speed on closed-cycle diesel.

<sup>g</sup> Assuming movement at 8.5 knots on closed-cycle diesel followed by movement at 2.5 knots on electric power.

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TABLE 13  
ESTIMATED SINO-SOVIET BLOC MERCHANT FLEET STRENGTH 1960-1965

	MID-1960						MID-1965					
	Dry Cargo		Tanker		Total		Dry Cargo		Tanker		Total	
	No.	DWT (cc)*	No.	DWT (cc)	No.	DWT (cc)	No.	DWT (cc)	No.	DWT (cc)	No.	DWT (cc)
USSR.....	734	2,784,500	111	871,000	845	3,555,500	960	4,335,000	239	1,320,000	1,199	5,655,000
Satellites.....	162	861,900	11	128,200	173	990,100	352	1,807,200	25	318,600	377	2,125,800
Communist China.....	131	538,400	9	15,800	140	554,100	208	850,000	14	52,800	222	902,800
TOTALS.....	1,027	4,184,800	131	1,015,000	1,158	5,099,700	1,520	6,992,200	278	1,691,400	1,798	8,683,600

\* Deadweight tonnage cargo capacity—DWT (cc)—is the total weight of cargo which a vessel can carry in full load condition. DWT (cc) is equal to deadweight tonnage (DWT) minus the full load allowance weight of crew, passengers, provisions, fuel, water, and other items necessary for use on a voyage.

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